

Ohio Electric Implementation Guideline

For
Electronic Data Interchange

TRANSACTION SET

867

Usage

Ver/Rel 004010

Summary of Changes

Version 1.0.0
May 1, 2001

Version 1.5.0
May 1, 2001

Version 2.0.0
December 31, 2001

Version 2.1.0
June 30, 2002

Version 2.2.0
October 1, 2005

Version 2.3.0
March 9, 2010

Version 2.4.0
February 14, 2012

Version 2.5.0
February 15, 2013

Version 2.6.0
March 24, 2014

Initial Release

- Add DTM segment for document due date into the 867 per Change Control 11.
- Change position of N1 loop for Scheduling Coordinator from position 040 to position 080 per Change Control 17.
- Correct two typos in the 867 IG (The REF*PR and the QTY segments in the PL loop contain a gray box. In the gray box it lists the type of 867 (HI, HU, IU, MU). These two segments have a typo and list HU twice.) per Change Control 20.
- Remove the Summary pages (usually pages 2 and 3) from the implementation guides. These pages are automatically created by Foresight, but the last round of changes to the documents was done in Word and has not been updated in Foresight per Change Control 22.
- Added note to MEA01 elements in the 867 for Duke Energy Ohio to allow for them to send only current reading (and not previous reading) for all units of measure, not just demand per Change Control 27
- Added note to N1~8R segment to show AP validates on first 4 characters of customer name per change control 48.
- Added text to title on N1 pages to show which N1 per change control 50
- Updated REF~Q5 gray boxes to show SDID per change control 51
- Added REF~NH and REF~PR to the BD loop per Change Control 53
- Change the CO0101 in the QTY segment under the PTD*SU loop to remove the requirement to send the K1, K2, and K4 values per change control 61.
- Added TOU values to the PTD Summary Loop for the 867 Historical Usage transaction for FirstEnergy Corp. use only per change control 63.
- During 3/3/10 meeting, the OSPO Data Working Group reviewed & confirmed EDI change controls up to and including CC67. All changes in the v2.2.0 redline were accepted and v2.3.0 created as the new baseline for Ohio.
- Added PTD*FG loop, QTY*KC, and QTY*KZ segments as per EDI Change Control 69.
- Incorporated AEP's administrative changes as per EDI Change Control 70.
- Incorporated Duke Energy Ohio's administrative changes as per EDI Change Control 72.
- Remove BD loop as per EDI Change Control 75
- Incorporated First Energy's administrative changes as per EDI Change Control 81.
- Added DTM*649 as optional when BPT01=01 as per EDI Change Control 83.
- Added DTM*150/151 to SU loop pos 210 for HU as per EDI Change Control 84.
- Incorporated LDC Rate Class, LDC Profile Description, and LDC Meter Cycle for HU as per EDI Change Control 82. Change effective NLT 6/30/12 for AEP, DP&L, and FE. Duke Energy Ohio NLT 12/31/2012.
- Incorporated Service Voltage and Loss Factor to the 867HU as per EDI Change Control 91. Change Effective 5/25/2012 for First Energy companies only, not used by other EDUs.
- Incorporated administrative changes to notes section and BPT04 as per EDI Change Control 97. No effective date necessary, change is admin only.
- Incorporate Change Control 103 Update (add net meter indicator & qualifiers)
- Incorporate Change Control 104 (clarify 867IU BO/PM looping for on/off peak)
- Incorporate Change Control 105 & 114 (REFLF & REFSV required for AEP & FE)
- Incorporate Change Control 108 (add effective date ranges to PLC & NSPL values)
- Incorporate Change Control 110 (TOU reporting in 867HU)
- Incorporate Change Control 111 (Add REFNH, REFLO, REFBF & REFPR to FG loop)
- Incorporate Change Control 112 (add net meter qualifiers for FE in HU and IU)
- Incorporate Change Control 115 (add meter number for PM loop for HI)
- Incorporate Change Control 117 (clarify AEP practice for HU/HI handling)

Summary of Changes

Version 2.6.1
February 13, 2015

- Incorporate Change Control 120 (DP&L support of 867HI)
- Incorporate Change Control 122 (correct Duke 867MU notes)
- Incorporate Change Control 123 (add Duke net meter data reporting)
- Incorporate Change Control 124 (correct FE net meter QTY01 in PL loop)

Definitions:

The following acronyms are used throughout this 867 Guideline.

HI – Historical Interval. The HI will be sent in response to an 814 HI request. This will be historical usage for an account that has an interval meter.

HU – Historical Usage. The HU will be sent in response to an 814 HU request. This will be historical usage for an account that has non-interval metered or unmetered services.

MU – Monthly Usage. The MU will be sent monthly (may be sent bi-monthly for customers on bi-monthly billing) for any account that has non-interval metered or unmetered services. This is the usage that will be used to calculate the 810 in Consolidated Billing

IU – Interval Usage. The IU will be sent monthly for any account that has an interval meter. This is the usage that will be used to calculate the 810 in Consolidated Billing

867 Looping

The looping in the 867 is directly related to the service being requested by the CRES, the type of service on the account, and the type of 867 being sent. The indicator for the type of 867 being sent is shown in the BPT04 element.

Historical Usage (867HU and 867HIU):

AEP

AEP supports both 867HU and 867HIU via EDI. In the event the CRES requests Historical Interval (HI) usage for an account without historical interval history present, AEP will accept the request, send REF*IP with HIU (Historical Interval Unavailable) and provide the CRES with 867 Historical Usage transaction set.

In the 867HU, AEP sends the PTD*FG loop and a PTD*PL loop for each meter/unit of measure/time of use. For unmetered services, the PTD*FG and PTD*BC loops are sent. In the 867HIU, AEP sends the PTD*FG and a PTD*PM loop for each meter/unit of measure.

DPL

DPL supports both 867HU and 867HIU via EDI. If a CRES requests interval detail on a non-interval account, DPL will reject with a reject code of HIU (INVALID REQUEST FOR USAGE). The CRES may re-submit the request as 814HU and DPL will provide summary level 867HU data.

In the 867HU, DPL sends the PTD*FG loop and a PTD*PL loop for each meter/unit of measure/time of use. For unmetered services, the PTD*FG and PTD*BC loops are sent. In the 867HIU, DPL sends the PTD*FG loop and a PTD*PM loop for each meter/unit of measure.

Duke Energy Ohio

Duke Energy Ohio supports both 867HU and 867HIU via EDI. If a CRES requests interval detail on a non-interval account, Duke will reject with a reject code of M76 (Interval Meter). The CRES may re-submit the request as 814HU and Duke will provide summary level 867HU data. Note that when a CRES requests summary data on an account that has an interval meter, Duke sends an 867HU, but the BPT04 will be “C1” indicating the account has an interval meter even though summary data is being sent.

In the 867HU, Duke sends the PTD*FG loop, a PTD*SU loop, and a PTD*PL loop for each meter/unit of measure. In the 867HIU, Duke sends the PTD*FG loop, a PTD*BO loop and a PTD*PM loop for each meter/unit of measure. For unmetered services, the PTD*FG and PTD*BC loops are sent.

FirstEnergy

FirstEnergy does not support 867 Historical Interval usage in Ohio. If a CRES requests HI, the request would be accepted with a REF*1P code of SNP (SERVICE NOT PROVIDED) and no 867 historical usage will be provided. The CRES may re-submit the request as 814HU and FirstEnergy will provide summary level 867HU data.

In the 867HU, FirstEnergy sends the PTD*FG loop and a PTD*SU loop for each unit of measure/time of use. For unmetered services, the PTD*FG and PTD*BC loops are sent.

Monthly Usage (867MU and 867IU):**AEP**

In the 867MU, for metered services AEP sends the PTD*SU loop and a PTD*PL loop for each meter/unit of measure. For unmetered services AEP sends a PTD*BC loop. In the 867IU, AEP sends a PTD*BO and a PTD*PM loop for each meter/unit of measure if the BPT04 = C1. If the BPT04 = X5, only the PTD*BO loop is sent for each meter/unit of measure.

DPL

In the 867MU, for metered services, DPL sends the PTD*SU loop and a PTD*PL loop for each meter/unit of measure. For unmetered services, DPL sends a PTD*BC loop. In the 867IU, DPL sends a PTD*BO and a PTD*PM loop for each meter/unit of measure if the BPT04 = C1. If the BPT04 = X5, only the PTD*BO loop is sent for each meter/unit of measure.

Duke Energy Ohio

In the 867MU, Duke sends the PTD*SU loop and a PTD*PL loop for each meter/unit of measure. For unmetered services, Duke sends a PTD*BC loop. In the 867IU, Duke sends a PTD*BO and a PTD*PM loop for each meter/unit of measure if the BPT04 = C1. If the BPT04 = X5, only the PTD*BO loop is sent for each meter/unit of measure.

Duke Energy Ohio – Billing for Net Metering – Net Consumption

For any month where the customer consumes more electricity than they generate, Duke Energy Ohio will reduce the generation from consumption and report net consumption in the SU loop. A supplier's billed consumption for a month where the customer is a net consumer is the net of consumption less generation.

Duke Energy Ohio – Billing for Net Metering – Net Generation

For any month where the customer generates more electricity than they consume, Duke Energy Ohio will credit the customer's account for the net generation in the SU loop. A supplier's billed consumption for a month where the customer is a net generator is zero.

FirstEnergy

In the 867MU, FirstEnergy sends the PTD*SU loop and a PTD*PL loop for each meter/unit of measure. For unmetered services, FirstEnergy sends a PTD*BC loop. In the 867IU, FirstEnergy sends a PTD*BO and a PTD*PM loop for each meter/unit of measure if the BPT04 = C1. If the BPT04 = X5, only the PTD*BO loop is sent for each meter/unit of measure.

867 Product Transfer and Resale Report

Functional Group ID=**PT**

Introduction:

This Draft Standard for Trial Use contains the format and establishes the data contents of the Product Transfer and Resale Report Transaction Set (867) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to: (1) report information about product that has been transferred from one location to another; (2) report sales of product from one or more locations to an end customer; or (3) report sales of a product from one or more locations to an end customer, and demand beyond actual sales (lost orders). Report may be issued by either buyer or seller.

Transaction Set Notes

1. The N1 loop is used to identify the transaction sender and receiver.

Segment:	ST Transaction Set Header
Position:	010
Loop:	
Level:	Heading
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the start of a transaction set and to assign a control number
Syntax Notes:	
Semantic Notes:	1 The transaction set identifier (ST01) is used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the Invoice Transaction Set).
Comments:	
Notes:	Required ST~867~000000001

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

Segment: **BPT** Beginning Segment for Product Transfer and Resale
Position: 020
Loop:
Level: Heading
Usage: Mandatory
Max Use: 1
Purpose: To indicate the beginning of the Product Transfer and Resale Report Transaction Set and transmit identifying data
Syntax Notes: 1 If either BPT05 or BPT06 is present, then the other is required.
Semantic Notes: 1 BPT02 identifies the transfer/resale number.
2 BPT03 identifies the transfer/resale date.
3 BPT08 identifies the transfer/resale time.
4 BPT09 is used when it is necessary to reference a Previous Report Number.

Comments:

Notes: If BPT01 = '01' (Cancellation), then an original 867 must be sent as soon as corrected data is available, if there is any replacement/corrected data.
Required
BPT~00~199902010001~19990131~DD
BPT~00~199902010001~19990131~DD~~~F
BPT~01~199902020001~19990131~DD~~~~~1999020100001

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	BPT01	353	Transaction Set Purpose Code Code identifying purpose of transaction set 00 Original Conveys original readings for the account being reported. 01 Cancellation Readings previously reported for the account are to be ignored. 52 Response to Historical Inquiry Response to a request for historical meter reading	M ID 2/2
M	BPT02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier A unique transaction identification number assigned by the originator of this transaction. This number must be unique over time. This code will be used as a cross reference to the 810 billing document, and for billing parties that make the other party whole, it will also be cross referenced on the 820. Transaction Reference numbers will only contain uppercase letters (A to Z) and digits (0 to 9). Note that punctuation (spaces, dashes, etc.) must be excluded.	O AN 1/30
M	BPT03	373	Date Date expressed as CCYYMMDD The transaction creation date - the date that the data was processed by the sender's application system.	M DT 8/8
M	BPT04	755	Report Type Code Code indicating the title or contents of a document, report or supporting item C1 Cost Data Summary Indicates transaction is an Interval Data transaction. This will be used when supplier is receiving both summary and detail interval data on an account with only interval meters. Note: Duke Energy Ohio also sends the C1 on an	O ID 2/2

C	BPT07	306	Action Code	O	ID 1/2	867HU when the CRES requests summary data on an account that contains interval meters.	
						DD	Distributor Inventory Report
							Indicates transaction is a monthly metered or unmetered transaction (no interval meters in the transaction).
						DR	Datalog Report
							Indicates transaction contains some combination of Interval, Monthly, and/or Unmetered Data. (Duke Energy Ohio ONLY)
						X5	Restricted Report
							I Indicates transaction contains summary data (at the meter level), but there are interval meters on the account
						Code indicating type of action	
						Conditional, Required if final usage reading.	
							F
		Final meter read data being sent for this customer. The customer account is final with the EDU or the customer switched to a new CRES.					
C	BPT09	127	Reference Identification	O	AN 1/30	Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	
			When BPT01 = 01 (cancel), this element is required and contains the transaction identification number from BPT02 of the transaction that is being cancelled.				
			Conditional: Required if this is a cancel (BPT01 = 01)				

Segment:	DTM Date/Time Reference
Position:	050
Loop:	
Level:	Heading
Usage:	Optional
Max Use:	10
Purpose:	To specify pertinent dates and times
Syntax Notes:	<ol style="list-style-type: none"> 1 At least one of DTM02 DTM03 or DTM05 is required. 2 If DTM04 is present, then DTM03 is required. 3 If either DTM05 or DTM06 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	<p>Required for LDC Consolidated Bill Ready, not used for Dual Billing or LDC Consolidated Rate Ready</p> <p>Optional in the Usage Cancel transaction (BPT01=01).</p>
Examples:	DTM*649*19990131*2359

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	DTM01	374	Date/Time Qualifier Code specifying type of date or time, or both date and time 649 Document Due The date that the non-billing party must provide the 810 transaction back to the billing party.	M ID 3/3
M	DTM02	373	Date Date expressed as CCYYMMDD	X DT 8/8
M	DTM03	337	Time Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99) HHMM format	X TM 4/8

Segment:	N1 Name (8S - EDU)
Position:	080
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	1
Purpose:	To identify a party by type of organization, name, and code
Syntax Notes:	1 At least one of N102 or N103 is required. 2 If either N103 or N104 is present, then the other is required.
Semantic Notes:	
Comments:	1 This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party. 2 N105 and N106 further define the type of entity in N101.
Notes:	Required
	N1~8S~EDU COMPANY~1~007909411~~41

Data Element Summary					
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>	
M	N101	98	Entity Identifier Code	M	ID 2/3
			Code identifying an organizational entity, a physical location, property or an individual		
			8S Consumer Service Provider (CSP)		
			EDU		
M	N102	93	Name	X	AN 1/60
			Free-form name		
			EDU Name		
M	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		
M	N104	67	Identification Code	X	AN 2/80
			Code identifying a party or other code		
			EDU D-U-N-S Number or D-U-N-S + 4 Number		
M	N106	98	Entity Identifier Code	O	ID 2/3
			Code identifying an organizational entity, a physical location, property or an individual		
			40 Receiver		
			41 Submitter		

Segment:	N1 Name (SJ - CRES)
Position:	080
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	1
Purpose:	To identify a party by type of organization, name, and code
Syntax Notes:	1 At least one of N102 or N103 is required. 2 If either N103 or N104 is present, then the other is required.
Semantic Notes:	
Comments:	1 This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party. 2 N105 and N106 further define the type of entity in N101.
Notes:	Required N1~SJ~CRES COMPANY~9~007909422CRES~~40 N1~SJ~CRES COMPANY~1~007909422~~40

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	N101	98	Entity Identifier Code Code identifying an organizational entity, a physical location, property or an individual SJ Service Provider CRES	M ID 2/3
M	N102	93	Name Free-form name CRES Name	X AN 1/60
M	N103	66	Identification Code Qualifier Code designating the system/method of code structure used for Identification Code (67) 1 D-U-N-S Number, Dun & Bradstreet 9 D-U-N-S+4, D-U-N-S Number with Four Character Suffix	X ID 1/2
M	N104	67	Identification Code Code identifying a party or other code CRES D-U-N-S Number or D-U-N-S + 4 Number	X AN 2/80
M	N106	98	Entity Identifier Code Code identifying an organizational entity, a physical location, property or an individual 40 Receiver 41 Submitter	O ID 2/3

Segment:	N1 Name (RS - Scheduling Coordinator)
Position:	080
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	1
Purpose:	To identify a party by type of organization, name, and code
Syntax Notes:	1 At least one of N102 or N103 is required. 2 If either N103 or N104 is present, then the other is required.
Semantic Notes:	
Comments:	1 This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party. 2 N105 and N106 further define the type of entity in N101.
Notes:	Required when a CRES is using more than one Scheduling Coordinator (Not used by AEP) N1~RS~SCHEDULING COORDINATOR~1~006193212S

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	N101	98	Entity Identifier Code Code identifying an organizational entity, a physical location, property or an individual RS Receiving Facility Scheduler Scheduling Coordinator	M ID 2/3
M	N102	93	Name Free-form name Name of Scheduling Coordinator	X AN 1/60
M	N103	66	Identification Code Qualifier Code designating the system/method of code structure used for Identification Code (67) 1 D-U-N-S Number, Dun & Bradstreet 9 D-U-N-S+4, D-U-N-S Number with Four Character Suffix	X ID 1/2
M	N104	67	Identification Code Code identifying a party or other code Scheduling Coordinator D-U-N-S Number or D-U-N-S + 4 Number	X AN 2/80

Segment:	N1 Name (8R - Customer)
Position:	080
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	1
Purpose:	To identify a party by type of organization, name, and code
Syntax Notes:	1 At least one of N102 or N103 is required. 2 If either N103 or N104 is present, then the other is required.
Semantic Notes:	
Comments:	1 This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party. 2 N105 and N106 further define the type of entity in N101.
Notes:	Required N1~8R~CUSTOMER NAME N1~8R~CUSTOMER NAME~92~STORE 7813

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	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
				Customer
M	N102	93	Name	X AN 1/60
			Free-form name	
			Customer Name as documented in the sender's application system.	
C	N103	66	Identification Code Qualifier	X ID 1/2
			Code designating the system/method of code structure used for Identification Code (67)	
			Condition: Required if available	
			92	Assigned by Buyer or Buyer's Agent
C	N104	67	Identification Code	X AN 2/80
			Code identifying a party or other code	
			Store Number	
			Condition: Required if available	

Segment:	REF Reference Identification (CRES Account Number)
Position:	120
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	12
Purpose:	To specify identifying information
Syntax Notes:	1 At least one of REF02 or REF03 is required. 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:	Account numbers will only contain uppercase letters (A to Z) and Digits (0 - 9). Note that punctuation (spaces, dashes, etc.) must be excluded, and leading and trailing zeros that are part of the account number must be present. Required if previously sent on the Enrollment or Change. REF~11~1394959

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			11 Account Number	
			CRES assigned customer account number	
M	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	
			CRES customer account number	

Segment:	REF Reference Identification (EDU Account Number)
Position:	120
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	12
Purpose:	To specify identifying information
Syntax Notes:	<ol style="list-style-type: none"> 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:	<p>Account numbers will only contain uppercase letters (A to Z) and Digits (0 - 9). Note that punctuation (spaces, dashes, etc.) must be excluded, and leading and trailing zeros that are part of the account number must be present.</p> <p>Conditional - Required for all utilities except AEP, which will use Service Delivery Identification Number.</p> <p>REF~12~1239485790</p>

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			12 Billing Account	
			EDU Account Number	
M	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	
			EDU Account Number	

Segment:	REF	Reference Identification (Previous EDU Account Number)
Position:	120	
Loop:	N1	Optional
Level:	Heading	
Usage:	Optional	
Max Use:	12	
Purpose:	To specify identifying information	
Syntax Notes:	1 At least one of REF02 or REF03 is required. 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:	Account numbers will only contain uppercase letters (A to Z) and Digits (0 - 9). Note that punctuation (spaces, dashes, etc.) must be excluded, and leading and trailing zeros that are part of the account number must be present. Condition: Required if the account number has changed in the last 60 days. Required for all utilities except AEP, which will use Service Delivery Identification Number. (Not used by AEP) REF~45~939581900	

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			45 Old Account Number	
			EDU's Previous Account Number	
M	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	
			EDU Previous Account Number	

Segment: **REF** **Reference Identification (Billing Type)**
Position: 120
Loop: N1 Optional
Level: Heading
Usage: Optional
Max Use: 12
Purpose: To specify identifying information
Syntax Notes:

- 1 At least one of REF02 or REF03 is required.
- 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:

HI: Not Used
 HU: Not Used
 IU: Required
 MU: Required
 REF~BLT~LDC

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			BLT	Billing Type
				Identifies whether the bill is consolidated by the EDU (LDC) or CRES (ESP), or whether each party will render their own bill. See REF02 for valid values.
M	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	
			DUAL	Dual Billing
				Each party bills the customer for its portion
			ESP	Energy Supplier Consolidated Billing
				The CRES bills the customer.
			LDC	Utility Consolidated Billing
				The EDU bills the customer

Segment: **REF** **Reference Identification (Party Calculating Charges)**
Position: 120
Loop: N1 Optional
Level: Heading
Usage: Optional
Max Use: 12
Purpose: To specify identifying information
Syntax Notes:

- 1 At least one of REF02 or REF03 is required.
- 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:

HI: Not Used
 HU: Not Used
 IU: Required
 MU: Required
 REF~PC~LDC

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			PC	Production Code
				Identifies the party that is to calculate the charges on the bill
M	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	
			DUAL	Each Party calculates its portion of the bill
			ESP	The CRES calculates charges for each party
			LDC	The EDU calculates charges for each party

Segment:	REF	Reference Identification (Q5 = SDID Number)
Position:	120	
Loop:	N1	Optional
Level:	Heading	
Usage:	Optional	
Max Use:	12	
Purpose:	To specify identifying information	
Syntax Notes:	1	At least one of REF02 or REF03 is required.
	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:	SDID numbers will only contain uppercase letters (A to Z) and Digits (0 - 9). Note that punctuation (spaces, dashes, etc.) must be excluded, and leading and trailing zeros that are part of the SDID number must be present. Required if customer is in AEP service territory. Maximum use of 1 per transaction REF~Q5~9876543245678DCH	

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			Q5 Property Control Number	
			AEP assigned Service Delivery Identification Number	
M	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	
			AEP assigned Service Delivery Identification Number	

Segment: **PTD** **Product Transfer and Resale Detail (Non-Interval Metered Services Summary)**

Position: 010

Loop: **PTD** **Mandatory**

Level: Detail

Usage: Mandatory

Max Use: 1

Purpose: To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data

Syntax Notes: **1** If either PTD02 or PTD03 is present, then the other is required.

2 If either PTD04 or PTD05 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Not Used

HU: Required for FE only since reporting at account level, otherwise not used

IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.

MU: Required if there are metered services on the account

A summary loop will be provided for each type of consumption (unit of measure) for all meters on the account. Usage for all meters on the same tariff rate will be summed in this loop.

PTD~SU

Data Element Summary

M	Ref.	Data	Name	Attributes
	<u>Des.</u>	<u>Element</u>		
	PTD01	521	Product Transfer Type Code	M ID 2/2
			Code identifying the type of product transfer	
			SU Summary	

Segment: **DTM** **Date/Time Reference (Service Period Start)**
Position: 020
Loop: **PTD** **Mandatory**
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1** At least one of DTM02 DTM03 or DTM05 is required.
- 2** If DTM04 is present, then DTM03 is required.
- 3** If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
 HU: Not Used
 IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.
 MU: Required if there are metered services on the account
 DTM~150~19990101

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	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	
			Beginning Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment: **DTM** **Date/Time Reference (Service Period End)**
Position: 020
Loop: **PTD** **Mandatory**
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
 HU: Not Used
 IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.
 MU: Required if there are metered services on the account
 DTM~151~19990131

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	DTM01	374	Date/Time Qualifier	M ID 3/3
			Code specifying type of date or time, or both date and time	
			151 Service Period End	
			Ending Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment:	QTY Quantity
Position:	110
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To specify quantity information
Syntax Notes:	1 At least one of QTY02 or QTY04 is required. 2 Only one of QTY02 or QTY04 may be present.
Semantic Notes:	1 QTY04 is used when the quantity is non-numeric.
Comments:	
Notes:	<p>There will be one QTY loop for each of the QTY03 Units of Measurement listed below that are measured on this account.</p> <p>Sending values for K1, K2, and K4 is optional. The summing of these units of measure does not give a valid number and should not be used for billing. If these values are sent, they should only be used to validate the detail PTD loops.</p> <p>HI: Not Used</p> <p>HU: Required for First Energy only, otherwise not used</p> <p>IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.</p> <p>MU: Required if there are metered services on the account</p> <p>QTY~QD~22348~KH</p>

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	QTY01	673	Quantity Qualifier	M ID 2/2
			Code specifying the type of quantity	
			KA Estimated	
			Quantity is estimated	
			QD Quantity Delivered	
			Quantity is actual	
			87 Actual Quantity Received (Net Metering)	
			Used when the net generation quantity received is actual. (FirstEnergy & Duke Energy Ohio Only)	
			9H Estimated Quantity Received (Net Metering)	
			Used when the net generation quantity received is estimated. (FirstEnergy & Duke Energy Ohio Only)	
M	QTY02	380	Quantity	X R 1/15
			Numeric value of quantity	
M	QTY03	C001	Composite Unit of Measure	O
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
			Note this is a composite data element, populate C00101	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			K1 Kilowatt Demand	
			kW - Represents potential power load measured at predetermined intervals. Sending K1 value is optional.	
			K2 Kilovolt Amperes Reactive Demand	
			kVAR - Reactive power that must be supplied for specific types of customer's equipment; billable when kilowatt demand usage meets or exceeds a defined parameter. Sending K2 value is optional.	
			K3 Kilovolt Amperes Reactive Hour	
			kVARh - Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds	

	defined parameters
K4	Kilovolt Amperes
	kVA - Kilovolt Amperes. Sending K4 value is optional.
KH	Kilowatt Hour
	kWh - Kilowatt Hours

Segment:	MEA Measurements (Readings & Time of Use)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 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:	<p>The MEA segment is sent for each QTY loop. The MEA will indicate the "time of use" that applies to the QTY. If meter readings are included in the MEA, they will indicate the "time of use" that the meter readings apply to.</p> <p>HI: Not Used</p> <p>HU: Required for First Energy only, otherwise not used</p> <p>IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.</p> <p>MU: Not Used</p> <p>MEA~~PRQ~772~KH~~~42</p> <p>MEA~~PRQ~12799~K1~~~51</p>

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies	
			PRQ Product Reportable Quantity	
M	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Represents quantity of consumption delivered for service period. Contains the difference in the meter readings (or as measured by the meter) multiplied by various factors, excluding Power Factor.	
M	MEA04	C001	Composite Unit of Measure	X
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
		K1	Kilowatt Demand	
			kW - Represents potential power load measured at predetermined intervals	
		K2	Kilovolt Amperes Reactive Demand	
			kVAR - 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	
			kVARh - Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters	
		K4	Kilovolt Amperes	

C	MEA07	935		kVA - Kilovolt Amperes	O ID 2/2
			KH	Kilowatt Hour	
				kWh - Kilowatt Hour	
			Measurement Significance Code		
			Code used to benchmark, qualify or further define a measurement value		
			NOTE: Other codes (as identified by UIG) can be used to identify quantities measured by the meter, but should not be used to identify tariffed/calculated measurements.		
			Condition: If time of use meter, this must be sent		
			41	Off Peak	
			42	On Peak	
			43	Intermediate Peak	
	Shoulder				
51	Totalizer				
	Total				

Segment: **DTM** Date/Time Reference (Service Period Start)
Position: 210
Loop: QTY
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Not Used
 HU: Required if sending SU loop in 867HU, otherwise not used
 IU: Not Used
 MU: Not Used
 DTM~150~19990101

Data Element Summary

	Ref.	Data	Name	Attributes
	Des.	Element		
M	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	
			Beginning Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment: **DTM** **Date/Time Reference (Service Period End)**
Position: 210
Loop: QTY
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Not Used
 HU: Required if sending SU loop in 867HU, otherwise not used
 IU: Not Used
 MU: Not Used
 DTM~151~19990131

Data Element Summary

	Ref.	Data	Name	Attributes
	Des.	Element		
M	DTM01	374	Date/Time Qualifier	M ID 3/3
			Code specifying type of date or time, or both date and time	
			151 Service Period End	
			Ending Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment: **PTD** **Product Transfer and Resale Detail (Non-Interval Metered Services Detail)**

Position: 010

Loop: PTD Mandatory

Level: Detail

Usage: Optional

Max Use: 1

Purpose: To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data

Syntax Notes: 1 If either PTD02 or PTD03 is present, then the other is required.

2 If either PTD04 or PTD05 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Not Used

HU: Required if there are metered services on the account. First Energy does not use, see PTD*SU loop.

IU: Not Used

MU: Required if there are metered services on the account One PTD loop is required for each meter and/or for each unit of measure on the account.

PTD~PL

Data Element Summary

Ref.	Des.	Data Element	Name	Attributes
M	PTD01	521	Product Transfer Type Code	M ID 2/2
			Code identifying the type of product transfer	
			PL Property Level Movement/Sale	

Segment:	DTM Date/Time Reference (Service Period Start)
Position:	020
Loop:	PTD Mandatory
Level:	Detail
Usage:	Optional
Max Use:	10
Purpose:	To specify pertinent dates and times
Syntax Notes:	1 At least one of DTM02 DTM03 or DTM05 is required. 2 If DTM04 is present, then DTM03 is required. 3 If either DTM05 or DTM06 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Not Used HU: Not Used IU: Not Used MU: Required if there are metered services on the account, unless a Meter Exchange Date (DTM~514) is substituted for this code. DTM~150~19990101

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	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	
			Beginning Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment:	DTM Date/Time Reference (Service Period End)
Position:	020
Loop:	PTD Mandatory
Level:	Detail
Usage:	Optional
Max Use:	10
Purpose:	To specify pertinent dates and times
Syntax Notes:	1 At least one of DTM02 DTM03 or DTM05 is required. 2 If DTM04 is present, then DTM03 is required. 3 If either DTM05 or DTM06 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Not Used HU: Not Used IU: Not Used MU: Required if there are metered services on the account, unless a Meter Exchange Date (DTM~514) is substituted for this code. DTM~151~19990131

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	DTM01	374	Date/Time Qualifier	M ID 3/3
			Code specifying type of date or time, or both date and time	
			151 Service Period End	
			Ending Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment: **DTM** **Date/Time Reference (Meter Exchange Date)**
Position: 020
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
HU: Not Used
IU: Not Used
MU: Required when a meter is exchanged.
Date Range in the first PTD is shown as:
DTM~150~19990201
DTM~514~19990214

Date Range in the second PTD is shown as:
DTM~514~19990214
DTM~151~19990228

Data Element Summary

	Ref.	Data	Attributes
	<u>Des.</u>	<u>Element</u> <u>Name</u>	<u>M</u> <u>ID</u> <u>3/3</u>
M	DTM01	374 Date/Time Qualifier Code specifying type of date or time, or both date and time 514 Transferred Meter Exchange Date	
M	DTM02	373 Date Date expressed as CCYYMMDD Date expressed as CCYYMMDD	X DT 8/8

Segment:	REF	Reference Identification (Number of Dials)
Position:	030	
Loop:	PTD	Mandatory
Level:	Detail	
Usage:	Optional	
Max Use:	20	
Purpose:	To specify identifying information	
Syntax Notes:	1 At least one of REF02 or REF03 is required. 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:	HI: Not Used HU: Conditional: if Time of Use (TOU) is being sent, the REF~IX must be sent to distinguish the different TOUs. IU: Not Used MU: Required for meters with dials REF~IX~6.0~KHMON REF~IX~5.1~KHMON~TU^41 REF~IX~4.2~K1MON~TU^43	

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification IX Item Number Number of dials on the meter displayed as X.Y. The notation X.Y means that the meter has X dials to the left of the decimal point and Y dials to the right.	M ID 2/3
M	REF02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier Number of Dials	X AN 1/30
M	REF03	352	Description A free-form description to clarify the related data elements and their content Meter Type. See Meter Type (REF~MT) on 814 Enrollment for valid codes. "COMBO" is not a valid code for this element.	X AN 1/80
C	REF04	C040	Reference Identifier To identify one or more reference numbers or identification numbers as specified by the Reference Qualifier Note this is a composite data element. Populate C04001 and C04002. Condition: if this is a time of use meter, this must be sent	O
C	C04001	128	Reference Identification Qualifier Code qualifying the Reference Identification Condition: if this is a time of use meter, this must be sent TU Trial Location Code Time of Use	C ID 2/3
C	C04002	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier NOTE: Other codes (as identified by UIG) can be used to identify quantities measured by the meter, but should not be used to identify tariffed/calculated measurements. Condition: if this is a time of use meter, this must be sent 41 Off Peak	C AN 1/30

42	On Peak
43	Intermediate Peak
	Shoulder
51	Totalizer
	Total

Segment: **REF** **Reference Identification (Meter Role)**
Position: 030
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 20
Purpose: To specify identifying information
Syntax Notes:

- 1 At least one of REF02 or REF03 is required.
- 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:

HI: Not Used
 HU: Not Used
 IU: Not Used
 MU: Required if there are metered services on the account
 REF~JH~A

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification JH Tag Meter Role	M ID 2/3
M	REF02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier A Additive This consumption contributed to the summarized total (do nothing) I Ignore This consumption did not contribute to the summarized total (do nothing) S Subtractive This consumption must be subtracted from the summarized total	X AN 1/30

Segment: **REF** **Reference Identification (Meter Number)**
Position: 030
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 1
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:

HI: Not Used
 HU: Required if there are metered services on the account
 IU: Not Used
 MU: Required if there are metered services on the account
 REF~MG~2222277S

Data Element Summary

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

Segment:	REF	Reference Identification (Meter Type)
Position:	030	
Loop:	PTD	Mandatory
Level:	Detail	
Usage:	Optional	
Max Use:	20	
Purpose:	To specify identifying information	
Syntax Notes:	1	At least one of REF02 or REF03 is required.
	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:	HI: Not Used HU: Required if there are metered services on the account IU: Not Used MU: Required if there are metered services on the account REF~MT~KHMON	

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			MT Meter Ticket Number	
			Meter Type	
M	REF02	127	Reference Identification	X AN 1/30
			Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	
			When REF01 is MT, the meter type is expressed as a five-character field. The first two characters are the type of consumption, the last three characters are the metering interval reported by the metering agent. Valid values can be a combination of the following values:	
			Type of Consumption	
			K1 Kilowatt Demand (kW)	
			K2 Kilovolt Amperes Reactive Demand (kVAR)	
			K3 Kilovolt Amperes Reactive Hour (kVARh)	
			K4 Kilovolt Amperes (kVA)	
			KH Kilowatt Hour (kWh)	
			Metering Interval Reported for Billing Purposes	
			nnn Number of minutes from 001 to 999	
			ANN Annual	
			BIA Bi-annual	
			BIM Bi-monthly	
			DAY Daily	
			MON Monthly	
			QTR Quarterly	
			TOU Time of Use	
			For Example:	
			KHMON Kilowatt Hours Per Month	
			K1015 Kilowatt Demand per 15 minute interval	
			"COMBO" cannot be used in this segment.	
C	REF03	352	Description	X AN 1/80
			A free-form description to clarify the related data elements and their content	
			Condition: Required if the account has cogeneration	
			COGEN Cogeneration Meter	

Segment:	REF Reference Identification (LO=Load Profile)
Position:	030
Loop:	PTD
Level:	Detail
Usage:	Optional
Max Use:	20
Purpose:	To specify identifying information
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 1 REF04 contains data relating to the value cited in REF02.
Comments:	
Notes:	HI: Not Used HU: Required for DP&L and Duke Energy Ohio. In the event there are multiple rate classes under an account, the PTD~PL/BC will be looped for each rate class. (AEP & FE sends in PTD~FG loop) IU: Not Used MU: Not Used REF~LO~GS

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>X12 Attributes</u>
Must Use	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			LO Load Planning Number	
			Load profile	
Must Use	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:	REF	Reference Identification (EDU Rate Code)
Position:	030	
Loop:	PTD	Mandatory
Level:	Detail	
Usage:	Optional	
Max Use:	1	
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:	HI: Not Used HU: Required for DP&L and Duke Energy Ohio. In the event there are multiple rate classes under an account, the PTD~PL/BC will be looped for each rate class. (AEP & FE sends in PTD~FG loop) IU: Not Used MU: Required if there are metered services on the account REF~NH~RES	

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			NH Rate Card Number	
			EDU Rate Code or tariff	
M	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	
			EDU Rate Code or tariff	

Segment:	REF Reference Identification (EDU Rate Subclass)
Position:	030
Loop:	PTD Mandatory
Level:	Detail
Usage:	Optional
Max Use:	1
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:	HI: Not Used HU: Conditional – send if there are metered services on the account and if it is stored in the EDU system IU: Not Used MU: Conditional – send if there are metered services on the account and if it is stored in the EDU system REF~PR~HEAT REF~PR~WHA

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			PR Price Quote Number	
			EDU Rate Subclass or Revenue Class - Used to provide further classification of a rate.	
M	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	
			EDU Rate Subclass or Revenue Class	

Segment:	QTY Quantity
Position:	110
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To specify quantity information
Syntax Notes:	1 At least one of QTY02 or QTY04 is required. 2 Only one of QTY02 or QTY04 may be present.
Semantic Notes:	1 QTY04 is used when the quantity is non-numeric.
Comments:	
Notes:	<p>If a meter measures total usage, as well as on-peak and off-peak, there will be three QTY loops sent within one PTD01 = PM loop. The MEA segment that follows each QTY will specify which time of use the QTY applies to.</p> <p>HI: Not Used</p> <p>HU: Required if there are metered services on the account</p> <p>IU: Not Used</p> <p>MU: Required if there are metered services on the account</p> <p>QTY~QD~22348~KH</p>

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	QTY01	673	Quantity Qualifier	M ID 2/2
			Code specifying the type of quantity	
			KA Estimated	
			Quantity is estimated	
			QD Quantity Delivered	
			Quantity is actual	
			87 Actual Quantity Received (Net Metering)	
			Used when the net generation quantity received is actual. (First Energy & Duke Energy Ohio Only)	
			9H Estimated Quantity Received (Net Metering)	
			Used when the net generation quantity received is estimated. (First Energy & Duke Energy Ohio Only)	
M	QTY02	380	Quantity	X R 1/15
			Numeric value of quantity	
M	QTY03	C001	Composite Unit of Measure	O
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
			Note this is a composite data element, populate C00101	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			K1 Kilowatt Demand	
			kW - Represents potential power load measured at predetermined intervals	
			K2 Kilovolt Amperes Reactive Demand	
			kVAR - 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	
			kVARh - Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters	
			K4 Kilovolt Amperes	

KH

kVA - Kilovolt Amperes

Kilowatt Hour

kWh - Kilowatt Hour

Segment:	MEA Measurements (Readings & Time of Use)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 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:	<p>The MEA segment is sent for each QTY loop. The MEA will indicate the "time of use" that applies to the QTY. If meter readings are included in the MEA, they will indicate the "time of use" that the meter readings apply to.</p> <p>HI: Not Used HU: Not Used IU: Not Used MU: Required if there are metered services on the account MEA~AA~PRQ~772~KH~10500~11272~42 MEA~AF~PRQ~12799~K1~~12799~51</p>

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	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	
			AE Meter reading-beginning actual/ending estimated	
			AF Actual Total	
			Recommended for demand because demand usually has only 1 reading. This code will also be used by Duke Energy Ohio if previous reading is not being supplied for units of measure other than demand.	
			EA Meter reading-beginning estimated/ending actual	
			EE Meter reading-beginning estimated/ending estimated	
M	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies	
			PRQ Product Reportable Quantity	
M	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Represents quantity of consumption delivered for service period. Contains the difference in the meter readings (or as measured by the meter) multiplied by various factors, excluding Power Factor.	
M	MEA04	C001	Composite Unit of Measure	X
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			K1 Kilowatt Demand	

				kW - Represents potential power load measured at predetermined intervals
			K2	Kilovolt Amperes Reactive Demand
				kVAR - 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
				kVARh - Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters
			K4	Kilovolt Amperes
				kVA - Kilovolt Amperes
			KH	Kilowatt Hour
				kWh - Kilowatt Hour
C	MEA05	740	Range Minimum	X R 1/20
			The value specifying the minimum of the measurement range	
			Beginning Reading	
			Required unless MEA01 = AF	
M	MEA06	741	Range Maximum	X R 1/20
			The value specifying the maximum of the measurement range	
			Ending reading or single reading (demand).	
C	MEA07	935	Measurement Significance Code	O ID 2/2
			Code used to benchmark, qualify or further define a measurement value	
			NOTE: Other codes (as identified by UIG) can be used to identify quantities measured by the meter, but should not be used to identify tariffed/calculated measurements.	
			Condition: If time of use meter, this must be sent	
			41	Off Peak
			42	On Peak
			43	Intermediate Peak
				Shoulder
			51	Totalizer
				Total

Segment:	MEA Measurements (Meter Multiplier)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	If no meter multiplier, then populate with "1" HI: Not Used HU: Not Used IU: Not Used MU: Required if there are metered services on the account MEA~~MU~1

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies	
			MU Multiplier	
			Meter Multiplier	
			(Ending Reading - Beginning Reading) * Meter Multiplier = Billed Usage	
M	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Meter Multiplier	

Segment: **MEA** **Measurements (Power Factor)**

Position: 160

Loop: QTY Optional

Level: Detail

Usage: Optional

Max Use: 40

Purpose: To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)

Syntax Notes: 1 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: HI: Not Used

HU: Not Used

IU: Not Used

MU: Required if there are metered services on the account and it is available

MEA~~ZA~.95

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>		<u>Attributes</u>	
M	MEA02	738	Measurement Qualifier		O	ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies			
			ZA Power Factor			
			Relationship between watts and volt - amperes necessary to supply electric load			
M	MEA03	739	Measurement Value		X	R 1/20
			The value of the measurement			
			Power Factor			

Segment:	MEA Measurements (Transformer Loss Factor)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	HI: Not Used HU: Not Used IU: Not Used MU: Required if there are metered services on the account and the transformer loss is not measured by the meter MEA~~CO~1.02

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies	
			CO Core Loss	
			Transformer Loss Factor	
M	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Transformer Loss Factor	

Segment: **DTM** **Date/Time Reference**
Position: 210
Loop: QTY Optional
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
 HU: Required if there are metered services on the account
 IU: Not Used
 MU: Not Used
 DTM~150~19990219

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	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	
			Beginning Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment: **DTM** **Date/Time Reference**
Position: 210
Loop: QTY Optional
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Not Used
 HU: Required if there are metered services on the account
 IU: Not Used
 MU: Not Used
 DTM~151~19990322

Data Element Summary

	Ref.	Data		Attributes
	Des.	Element	Name	
M	DTM01	374	Date/Time Qualifier	M ID 3/3
			Code specifying type of date or time, or both date and time	
			151 Service Period End	
			Ending Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment: **PTD** **Product Transfer and Resale Detail (Interval Meter Services Summary)**
Position: 010
Loop: PTD Optional
Level: Detail
Usage: Optional
Max Use: 1
Purpose: To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data

Syntax Notes:
1 If either PTD02 or PTD03 is present, then the other is required.
2 If either PTD04 or PTD05 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Duke Energy Ohio may send the PTD~BO loop on 867HIU transactions, otherwise not used
 HU: Not Used
 IU: Required, First Energy does not use when BPT04 = X5. Note for IU: If EDU is reporting separate on/off peak PTD~BO loops, only one PTD~PM loop should be sent.
 MU: Not Used
 One PTD loop is required for each meter or for each unit of measure on the account.
 PTD~BO

Data Element Summary

Ref.	Des.	Data Element	Name	Attributes
M	PTD01	521	Product Transfer Type Code	M ID 2/2

Code identifying the type of product transfer

BO

Designated Items

Provides Summary information for each interval meter or unit of measure.

Segment: **DTM** **Date/Time Reference (Service Period Start)**
Position: 020
Loop: PTD Optional
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
 HU: Not Used
 IU: Required
 MU: Not Used
 DTM~150~19990101

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	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	
			Beginning Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed CCYYMMDD	

Segment: **DTM** **Date/Time Reference (Service Period End)**
Position: 020
Loop: PTD Optional
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
 HU: Not Used
 IU: Required
 MU: Not Used
 DTM~151~19990131

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	DTM01	374	Date/Time Qualifier	M ID 3/3
			Code specifying type of date or time, or both date and time	
			151 Service Period End	
			Beginning Read Date	
M	DTM02	373	Date	X DT 8/8
			Date expressed as CCYYMMDD	
			Date expressed as CCYYMMDD	

Segment: REF **Reference Identification (Number of Dials)**
Position: 030
Loop: PTD Optional
Level: Detail
Usage: Optional
Max Use: 20
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:

HI: Not Used
 HU: Not Used
 IU: Required
 MU: Not Used
 REF~IX~6.0~KHMON
 REF~IX~4.2~K1MON~TU^43

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification IX Item Number Number of dials on the meter displayed as X.Y. The notation X.Y means that the meter has X dials to the left of the decimal point and Y dials to the right.	M ID 2/3
M	REF02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier Number of Dials	X AN 1/30
M	REF03	352	Description A free-form description to clarify the related data elements and their content Meter Type. See Meter Type (REF~MT) on 814 Enrollment for valid codes. "COMBO" is not a valid code for this element.	X AN 1/80
C	REF04	C040	Reference Identifier To identify one or more reference numbers or identification numbers as specified by the Reference Qualifier Note this is a composite data element. Populate C04001 and C04002. Condition: if this is a time of use meter, this must be sent	O
C	C04001	128	Reference Identification Qualifier Code qualifying the Reference Identification Condition: if this is a time of use meter, this must be sent TU Trial Location Code Time of Use	C ID 2/3
C	C04002	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier Condition: if this is a time of use meter, this must be sent 41 Off Peak 42 On Peak 43 Intermediate Peak Shoulder 51 Totalizer Total	C AN 1/30

Segment: **REF** **Reference Identification (Meter Role)**
Position: 030
Loop: PTD Optional
Level: Detail
Usage: Optional
Max Use: 20
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:

HI: Not Used
 HU: Not Used
 IU: Required
 MU: Not Used
 REF~JH~A

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			JH Tag	
			Meter Role	
M	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	
		A	Additive	
			This consumption contributed to the summarized total (do nothing)	
		I	Ignore	
			This consumption did not contribute to the summarized total (do nothing)	
		S	Subtractive	
			This consumption must be subtracted from the summarized total	

Segment: **REF** **Reference Identification (Meter Number)**

Position: 030

Loop: PTD Optional

Level: Detail

Usage: Optional

Max Use: 20

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:

Meter numbers will contain only uppercase letters (A to Z) and digits (0 to 9). Note that punctuation (spaces, dashes, etc.) must be excluded, and significant leading and trailing zeros that are part of the meter number must be present.

HI: Not Used

HU: Not Used

IU: Required

MU: Not Used

REF~MG~2222277S

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			MG Meter Number	
M	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	
			Meter Number	

Segment: **REF** **Reference Identification (Meter Type)**
Position: 030
Loop: PTD Optional
Level: Detail
Usage: Optional
Max Use: 20
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:

HI: Not Used
HU: Not Used
IU: Required
MU: Not Used
REF~MT~KHMOM

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification MT Meter Ticket Number Meter Type	M ID 2/3
M	REF02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier When REF01 is MT, the meter type is expressed as a five-character field. The first two characters are the type of consumption, the last three characters are the metering interval reported by the metering agent. Valid values can be a combination of the following values: Type of Consumption K1 Kilowatt Demand (kW) K2 Kilovolt Amperes Reactive Demand (kVAR) K3 Kilovolt Amperes Reactive Hour (kVARh) K4 Kilovolt Amperes (kVA) KH Kilowatt Hour (kWh) Metering Interval Reported for Billing Purposes nnn Number of minutes from 001 to 999 ANN Annual BIA Bi-annual BIM Bi-monthly DAY Daily MON Monthly QTR Quarterly TOU Time of Use For Example: KHMOM Kilowatt Hours Per Month K1015 Kilowatt Demand per 15 minute interval "COMBO" cannot be used in this segment.	X AN 1/30

Segment: QTY Quantity
Position: 110
Loop: QTY Optional
Level: Detail
Usage: Optional
Max Use: 1
Purpose: To specify quantity information
Syntax Notes: 1 At least one of QTY02 or QTY04 is required.
2 Only one of QTY02 or QTY04 may be present.
Semantic Notes: 1 QTY04 is used when the quantity is non-numeric.
Comments:
Notes:

HI: Not Used
HU: Not Used
IU: Required
MU: Not Used
QTY~QD~22348~KH

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	QTY01	673	Quantity Qualifier	M ID 2/2
			Code specifying the type of quantity	
			KA Estimated	
			Quantity is estimated	
			QD Quantity Delivered	
			Quantity is actual	
			87 Actual Quantity Received (Net Metering)	
			Used when the net generation quantity received is actual. (Duke Energy Ohio Only)	
			9H Estimated Quantity Received (Net Metering)	
			Used when the net generation quantity received is estimated. (Duke Energy Ohio Only)	
M	QTY02	380	Quantity	X R 1/15
			Numeric value of quantity	
M	QTY03	C001	Composite Unit of Measure	O
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
			Note this is a composite data element, populate C00101	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			K1 Kilowatt Demand	
			kW - Represents potential power load measured at predetermined intervals	
			K2 Kilovolt Amperes Reactive Demand	
			kVAR - 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	
			kVARh - Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters	
			K4 Kilovolt Amperes	
			kVA - Kilovolt Amperes	
			KH Kilowatt Hour	
			kWh - Kilowatt Hour	

Segment:	MEA Measurements (Meter Reads)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	HI: Not Used HU: Not Used IU: Conditional: Send if interval meter has associated monthly begin/end readings. MU: Not Used MEA~AF~~~KH~02500~04000~51

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	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	
			AE Meter reading-beginning actual/ending estimated	
			AF Actual Total	
			Recommended for demand because demand usually has only 1 reading. This code will also be used by Duke Energy Ohio if previous reading is not being supplied for units of measure other than demand.	
			EA Meter reading-beginning estimated/ending actual	
			EE Meter reading-beginning estimated/ending estimated	
M	MEA04	C001	Composite Unit of Measure	X
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			K1 Kilowatt Demand	
			kW - Represents potential power load measured at predetermined intervals	
			K2 Kilovolt Amperes Reactive Demand	
			kVAR - 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	
			kVARh - Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters	
			K4 Kilovolt Amperes	

			kVA - Kilovolt Amperes	
			KH	
			Kilowatt Hour	
			kWh - Kilowatt Hour	
C	MEA05	740	Range Minimum	X R 1/20
			The value specifying the minimum of the measurement range	
			Beginning Reading if applicable	
			Condition: Required unless MEA01 = "AF"	
M	MEA06	741	Range Maximum	X R 1/20
			The value specifying the maximum of the measurement range	
			Ending reading or single reading	

Segment:	MEA Measurements (Meter Multiplier)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	<p>If no meter multiplier, then populate with "1".</p> <p>HI: Not Used HU: Not Used IU: Required MU: Not Used MEA~~MU~1</p>

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies	
			MU Multiplier	
			Meter Multiplier	
			(Ending Reading - Beginning Reading) * Meter Multiplier = Billed Usage	
M	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Meter Multiplier	

Segment:	MEA Measurements (Power Factor)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 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:	HI: Not Used HU: Not Used IU: Required if available MU: Not Used MEA~~ZA~.95

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies	
			ZA Power Factor	
			Relationship between watts and volt - amperes necessary to supply electric load	
M	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Power Factor	

Segment:	MEA Measurements (Transformer Loss Factor)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	<ol style="list-style-type: none"> 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:	HI: Not Used HU: Not Used IU: Required when the transformer loss is not measured by the meter MU: Not Used MEA~~CO~1.02

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to which a measurement applies	
			CO Core Loss	
			Transformer Loss Factor	
M	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Transformer Loss Factor	

Segment: **PTD** **Product Transfer and Resale Detail (Interval Meter Services Detail)**

Position: 010

Loop: PTD Mandatory

Level: Detail

Usage: Mandatory

Max Use: 1

Purpose: To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data

Syntax Notes: **1** If either PTD02 or PTD03 is present, then the other is required.

2 If either PTD04 or PTD05 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Required

HU: Not Used

IU: Required if the CRES requests detail interval information on the Enrollment or Change Note for IU: If EDU is reporting separate on/off peak PTD~BO loops, only one PTD~PM loop should be sent.

MU: Not Used. One PTD loop is required for each meter and/or each unit of measure on the account.

PTD~PM

Data Element Summary

Ref.	Data Element	Name	Attributes
M	PTD01	521 Product Transfer Type Code	M ID 2/2
Code identifying the type of product transfer			
PM Physical Meter Information			
Provides detail information for each interval meter or unit of measure.			

Segment: **REF** **Reference Identification (Meter Number)**
Position: 030
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 1
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:

HI: Required
 HU: Not Used
 IU: Not Used
 MU: Not Used
 REF~MG~2222277S

Data Element Summary

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

Segment:	QTY Quantity
Position:	110
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To specify quantity information
Syntax Notes:	1 At least one of QTY02 or QTY04 is required. 2 Only one of QTY02 or QTY04 may be present.
Semantic Notes:	1 QTY04 is used when the quantity is non-numeric.
Comments:	
Notes:	HI: Required HU: Not Used IU: Required if CRES requests detail interval information on the Enrollment or Change MU: Not Used QTY~QD~22348

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	QTY01	673	Quantity Qualifier	M ID 2/2
			Code specifying the type of quantity	
			KA Estimated	
			Quantity is estimated	
			QD Quantity Delivered	
			Quantity is actual	
			87 Actual Quantity Received (Net Metering)	
			Used when the net generation quantity received is actual. FirstEnergy & Duke Energy Ohio Only)	
			9H Estimated Quantity Received (Net Metering)	
			Used when the net generation quantity received is estimated. (FirstEnergy & Duke Energy Ohio Only)	
M	QTY02	380	Quantity	X R 1/15
			Numeric value of quantity	
M	QTY03	C001	Composite Unit of Measure	O
			To identify a composite unit of measure (See Appendix for examples of use)	
			Note this is a composite data element, populate C00101	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			K1 Kilowatt Demand	
			kW - Represents potential power load measured at predetermined intervals	
			K2 Kilovolt Amperes Reactive Demand	
			kVAR - 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	
			kVARh - Represents actual electricity equivalent to kilowatt hours; billable when usage meets or exceeds defined parameters	
			K4 Kilovolt Amperes	
			kVA - Kilovolt Amperes	
			KH Kilowatt Hour	
			kWh - Kilowatt Hour	

Segment:	DTM Date/Time Reference (Interval End Time)
Position:	210
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	10
Purpose:	To specify pertinent dates and times
Syntax Notes:	1 At least one of DTM02 DTM03 or DTM05 is required. 2 If DTM04 is present, then DTM03 is required. 3 If either DTM05 or DTM06 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Required HU: Not Used IU: Required if the CRES requests detail interval information on the Enrollment or Change MU: Not Used DTM~194~19990115~1500~ET

Data Element Summary					
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>	
M	DTM01	374	Date/Time Qualifier	M	ID 3/3
			Code specifying type of date or time, or both date and time		
			194 Period End		
			The date/time of the end of the interval		
M	DTM02	373	Date	X	DT 8/8
			Date expressed as CCYYMMDD		
M	DTM03	337	Time	X	TM 4/8
			Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)		
			HHMM, where H = Hours and M = Minutes in Eastern Prevailing Time (ET). For this transaction, since X12 does not allow 2400 for time, 2359 will be used to indicate midnight. For example, midnight between October 15th and October 16th will be reflected as 2359 of October 15th.		
M	DTM04	623	Time Code	O	ID 2/2
			Code identifying the time. In accordance with International Standards Organization standard 8601, time can be specified by a + or - and an indication in hours in relation to Universal Time Coordinate (UTC) time; since + is a restricted character, + and - are substituted by P and M in the codes that follow		
			ET Eastern Time		

Segment: **PTD** **Product Transfer and Resale Detail (Unmetered Services)**

Position: 010

Loop: PTD Mandatory

Level: Detail

Usage: Mandatory

Max Use: 1

Purpose: To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data

Syntax Notes: **1** If either PTD02 or PTD03 is present, then the other is required.

2 If either PTD04 or PTD05 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Not Used

HU: Conditional – at least one of the PTD~BC loop must be sent if there are unmetered services on the account

IU: Not Used

MU: Conditional – at least one of the PTD~BC loop must be sent if there are unmetered services on the account

PTD~BC

PTD~BD

Data Element Summary

Ref.	Data Des.	Data Element	Name	Attributes
M	PTD01	521	Product Transfer Type Code	M ID 2/2
			Code identifying the type of product transfer	
			BC	Issue - Other Agency
				Unmetered Services Summary

Segment: **DTM** **Date/Time Reference (Service Period Start)**
Position: 020
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
 HU: Required
 IU: Not Used
 MU: Required if there are unmetered service on the account
 DTM~150~19990101

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	DTM01	374	Date/Time Qualifier Code specifying type of date or time, or both date and time 150 Service Period Start	M ID 3/3
M	DTM02	373	Date Date expressed as CCYYMMDD Date expressed as CCYYMMDD	X DT 8/8

Segment: **DTM** **Date/Time Reference (Service Period End)**
Position: 020
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:
Comments:
Notes:

HI: Not Used
 HU: Required
 IU: Not Used
 MU: Required if there are unmetered service on the account
 DTM~151~19990131

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	DTM01	374	Date/Time Qualifier Code specifying type of date or time, or both date and time 151 Service Period End	M ID 3/3
M	DTM02	373	Date Date expressed as CCYYMMDD Date expressed as CCYYMMDD	X DT 8/8

Segment:	REF Reference Identification (LO=Load Profile)
Position:	030
Loop:	PTD
Level:	Detail
Usage:	Optional
Max Use:	20
Purpose:	To specify identifying information
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 1 REF04 contains data relating to the value cited in REF02.
Comments:	
Notes:	HI: Not Used HU: Required for DP&L and Duke Energy Ohio. In the event there are multiple rate classes under an account, the PTD~PL/BC will be looped for each rate class. (AEP & FE sends in PTD~FG loop) IU: Not Used MU: Not Used REF~LO~GS

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>X12 Attributes</u>
Must Use	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			LO Load Planning Number	
			Load profile	
Must Use	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:	REF	Reference Identification (EDU Rate Code)
Position:	030	
Loop:	PTD	Mandatory
Level:	Detail	
Usage:	Optional	
Max Use:	1	
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:	HI: Not Used HU: Required for DP&L and Duke Energy Ohio. In the event there are multiple rate classes under an account, the PTD~PL/BC will be looped for each rate class. (AEP & FE sends in PTD~FG loop) IU: Not Used MU: Required if there are metered services on the account REF~NH~RES	

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			NH Rate Card Number	
			EDU Rate Code or tariff	
M	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	
			EDU Rate Code or tariff	

Segment:	REF Reference Identification (EDU Rate Subclass)
Position:	030
Loop:	PTD Mandatory
Level:	Detail
Usage:	Optional
Max Use:	1
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:	HI: Not Used HU: Conditional – send if there are metered services on the account and if it is stored in the EDU system IU: Not Used MU: Conditional – send if there are metered services on the account and if it is stored in the EDU system REF~PR~HEAT REF~PR~WHA

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			PR Price Quote Number	
			EDU Rate Subclass or Revenue Class - Used to provide further classification of a rate.	
M	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	
			EDU Rate Subclass or Revenue Class	

Segment: **REF** **Reference Identification (Product Type)**
Position: 030
Loop: PTD Mandatory
Level: Detail
Usage: Optional
Max Use: 20
Purpose: To specify identifying information
Syntax Notes:

- 1 At least one of REF02 or REF03 is required.
- 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:

HI: Not Used
 HU: Required
 IU: Not Used
 MU: Required if there are unmetered service on the account
 REF~PRT~LIGHT

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification PRT Product Type EDU Defined Unmetered Service Type	M ID 2/3
M	REF02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier This describes the type of device that this measurement loop references (for instance, a specific wattage of an outdoor light). The valid codes will be defined on each EDU Web Site.	X AN 1/30

Segment: QTY Quantity
Position: 110
Loop: QTY Optional
Level: Detail
Usage: Optional
Max Use: 1
Purpose: To specify quantity information
Syntax Notes: 1 At least one of QTY02 or QTY04 is required.
2 Only one of QTY02 or QTY04 may be present.
Semantic Notes: 1 QTY04 is used when the quantity is non-numeric.
Comments:
Notes: HI: Not Used
HU: Required
IU: Not Used
MU: Required if there are unmetered service on the account
QTY~QD~22348~KH

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
M	QTY01	673	Quantity Qualifier	M ID 2/2
			Code specifying the type of quantity	
			QD	Quantity Delivered
				Quantity is actual
				Whether unmetered services are estimated, calculated, or actual, they will be coded as actual.
M	QTY02	380	Quantity	X R 1/15
			Numeric value of quantity	
			This represents the consumption quantity per device	
M	QTY03	C001	Composite Unit of Measure	O
			To identify a composite unit of measure (See Figures Appendix for examples of use)	
			Note this is a composite data element, populate C00101	
M	C00101	355	Unit or Basis for Measurement Code	M ID 2/2
			Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
			EA	Each
				Ea
			KH	Kilowatt Hour
				kWh

Segment:	PTD Product Transfer and Resale Detail (FG=Scheduling Determinants)
Position:	010
Loop:	PTD
Level:	Detail
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required. 2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Required for PJM Customers; otherwise not used HU: Required for PJM Customers; otherwise not used IU: Not Used MU: Not Used This PTD Loop will be used to provide Scheduling Determinants, such as the Capacity Contribution (a.k.a. Load Responsibility) and Transmission Contribution for PJM customers. Examples: PTD*FG

Data Element Summary			
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u> <u>Name</u>	<u>Attributes</u>
Must Use	PTD01	521 Product Transfer Type Code Code identifying the type of product transfer	M ID 2/2
		FG Flowing Gas Information	
		Scheduling Determinants: This loop will provide information required by PJM.	

Segment: **REF** Reference Identification (BF=LDC Bill Cycle)

Position: 030

Loop: PTD

Level: Detail

Usage: Optional

Max Use: 20

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:

HI: Required
 HU: Required
 IU: Not Used
 MU: Not Used
 REF~BF~15

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification	M ID 2/3
			BF LDC Bill Cycle	
Must Use	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: **REF** **Reference Identification (KY=Special Meter Configuration)**
Position: 030
Loop: PTD
Level: Detail
Usage: Optional
Max Use: 20
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:
 HI: Not Used (will be required if/when FirstEnergy implements HI)
 HU: Required for First Energy when net meter is present on an account
 IU: Not Used
 MU: Not Used
 REF~KY~NETMETER

Data Element Summary

	Ref. Des.	Data Element	Name	X12 Attributes
Must Use	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification KY Site Specific Procedures, Terms, and Conditions Special Meter Configuration	M ID 2/3
Must Use	REF02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier NETMETER Net metering present	X AN 1/30

Segment:	REF Reference Identification (LO=Load Profile)
Position:	030
Loop:	PTD
Level:	Detail
Usage:	Optional
Max Use:	20
Purpose:	To specify identifying information
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 1 REF04 contains data relating to the value cited in REF02.
Comments:	
Notes:	HI: Required if available HU: Required for AEP and First Energy (DP&L and Duke send in PTD~PL/BC loops) IU: Not Used MU: Not Used REF~LO~GS

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>X12 Attributes</u>
Must Use	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification LO Load Planning Number Load profile	M ID 2/3
Must Use	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:	REF Reference Identification (NH=LDC Rate Class)
Position:	030
Loop:	PTD
Level:	Detail
Usage:	Optional
Max Use:	20
Purpose:	To specify identifying information
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 1 REF04 contains data relating to the value cited in REF02.
Comments:	
Notes:	HI: Required HU: Required for AEP and First Energy (DP&L and Duke send in PTD~PL/BC loops) IU: Not Used MU: Not Used REF~NH~GS1

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification NH LDC Rate Code	M ID 2/3
Must Use	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:	REF Reference Identification (LF=Loss Factor)
Position:	030
Loop:	PTD
Level:	Detail
Usage:	Optional
Max Use:	20
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:	HI: Required for First Energy companies (if/when HI supported) & AEP Ohio; optional for DP&L and Duke Energy Ohio HU: Required for First Energy companies & AEP Ohio; optional for DP&L and Duke Energy Ohio IU: Not Used MU: Not Used REF~LF~2

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>X12 Attributes</u>
Must Use	REF01	128	Reference Identification Qualifier	M ID 2/3
			Code qualifying the Reference Identification	
			LF Load Planning Number	
			Loss Factor	
Must Use	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:	REF Reference Identification (PR = EDU Rate Subclass)
Position:	030
Loop:	PTD Mandatory
Level:	Detail
Usage:	Optional
Max Use:	1
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:	HI: Conditional – send if there are metered services on the account if it is stored in the EDU system HU: Conditional – send if there are metered services on the account and if it is stored in the EDU system IU: Not Used MU: Not Used REF~PR~HEAT REF~PR~WHA

Data Element Summary				
	<u>Ref. Des.</u>	<u>Data Element</u>	<u>Name</u>	<u>Attributes</u>
M	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification PR Price Quote Number EDU Rate Subclass or Revenue Class - Used to provide further classification of a rate.	M ID 2/3
M	REF02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier EDU Rate Subclass or Revenue Class	X AN 1/30

Segment:	REF Reference Identification (SV=Service Voltage)
Position:	030
Loop:	PTD
Level:	Detail
Usage:	Optional
Max Use:	20
Purpose:	To specify identifying information
Syntax Notes:	<ol style="list-style-type: none"> 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:	<ol style="list-style-type: none"> 1 REF04 contains data relating to the value cited in REF02.
Comments:	
Notes:	HI: Required for First Energy companies (if/when HI supported) & AEP Ohio; optional for DP&L and Duke Energy HU: Required for First Energy companies & AEP Ohio; optional for DP&L and Duke Energy Ohio IU: Not Used MU: Not Used REF~SV~SECONDARY

Data Element Summary				
	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>X12 Attributes</u>
Must Use	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification	M ID 2/3
			SV Service Charge Number Service Voltage	
Must Use	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
			PRIMARY SECONDARY Actual service voltage transmission value (Ex: 34.5kV)	

Segment: QTY Quantity (KC=Peak Load Contribution)

Position: 110

Loop: QTY

Level: Detail

Usage: Optional

Max Use: 1

Purpose: To specify quantity information

Syntax Notes: 1 At least one of QTY02 or QTY04 is required.
2 Only one of QTY02 or QTY04 may be present.

Semantic Notes: 1 QTY04 is used when the quantity is non-numeric.

Comments:

Notes: HI: Required for PJM Customers; otherwise not used
HU: Required for PJM Customers; otherwise not used
IU: Not Used
MU: Not Used

Each QTY/MEA/DTM loop conveys consumption information about one metering period. The value provided is at the Account or Service Delivery Identifier Number level for AEP.

Zero values may be sent if the EDU is, in fact, stating that there is no contribution for this customer's account

Example: QTY*KC*752*K1

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	QTY01	673	Quantity Qualifier Code specifying the type of quantity KC Net Quantity Decrease Peak Load Contribution, (a.k.a. Capacity Contribution, 5CP, or Load Responsibility): Peak load contributions provided to PJM for Installed Capacity calculation (coincident with PJM Peak).	M ID 2/2
Must Use	QTY02	380	Quantity Numeric value of quantity	X R 1/15
Must Use	QTY03	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 K1 Kilowatt Demand Represents potential power load measured at predetermined intervals	M ID 2/2

Segment: **DTM** **Date/Time Reference (007=PLC Effective Date)**
Position: 210
Loop: QTY
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Required for PJM Customers; otherwise not used
 HU: Required for PJM Customers; otherwise not used
 IU: Not Used
 MU: Not Used

The QTY/DTM loop may be sent twice depending on the time of year the Historical Usage is being provided. (PLC is effective June 1 - May 31) One iteration will show the current PLC and a second iteration will show the PLC that will be effective in the period defined in the DTM segment. Currently the EDUs change the PLC effective June 1st. Once the EDUs are aware of what the next effective PLC will be (typically in December) they should begin providing it on transactions.

For example, in February 2014 the PLC values would be reported as:

QTY*KC*476*K1
 DTM*007****RD8*20130601-20140531
 QTY*KC*450*K1
 DTM*007****RD8*20140601-20150531

Whereas in September 2014 the PLC value would include only one loop because the following year's PLC is undetermined:

QTY*KC*450*K1
 DTM*007****RD8*20140601-20140531

Ohio EDU Implementation of this segment as per EDI CC 108:

AEP – 3Q 2014
 DP&L and Duke Energy Ohio – by 12/31/14
 FirstEnergy - TBD

Example: DTM*007****RD8*20070601-20080531

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	DTM01	374	Date/Time Qualifier Code specifying type of date, or time, or both date and time 007 Effective PLC Effective Date	M ID 3/3
Must Use	DTM05	1250	Date/Time Period Format Qualifier Code indicating the date format, time format, or date and time format RD8 Range of Dates Expressed in Format CCYYMMDD-CCYYMMDD	X ID 2/3
Must Use	DTM06	1251	Date/Time Period Expressed as CCYYMMDD-CCYYMMDD	X AN 1/35

Segment: QTY Quantity (KZ=Network Service Peak Load)
Position: 110
Loop: QTY
Level: Detail
Usage: Optional
Max Use: 1
Purpose: To specify quantity information
Syntax Notes: 1 At least one of QTY02 or QTY04 is required.
2 Only one of QTY02 or QTY04 may be present.
Semantic Notes: 1 QTY04 is used when the quantity is non-numeric.
Comments:
Notes:

HI: Required for PJM Customers; otherwise not used
HU: Required for PJM Customers; otherwise not used
IU: Not Used
MU: Not Used

Each QTY/MEA/DTM loop conveys consumption information about one metering interval. The value provided is at the Account or Service Delivery Identifier Number level for AEP

Zero values may be sent if the EDU is, in fact, stating that there is no contribution for this customer's account.

Example: QTY*KZ*752*K1

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	QTY01	673	Quantity Qualifier Code specifying the type of quantity KZ Corrective Action Requests - Written Network Service Peak Load (a.k.a. Transmission Contribution or 1CP): Customer's peak load contribution provided to PJM for the Transmission Service calculation (coincident with LDC peak).	M ID 2/2
Must Use	QTY02	380	Quantity Numeric value of quantity	X R 1/15
Must Use	QTY03	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 K1 Kilowatt Demand Represents potential power load measured at predetermined intervals	M ID 2/2

Segment: DTM Date/Time Reference (007=NSPL Effective Date)

Position: 210
Loop: QTY
Level: Detail
Usage: Optional
Max Use: 10
Purpose: To specify pertinent dates and times
Syntax Notes:

- 1 At least one of DTM02 DTM03 or DTM05 is required.
- 2 If DTM04 is present, then DTM03 is required.
- 3 If either DTM05 or DTM06 is present, then the other is required.

Semantic Notes:

Comments:

Notes:

HI: Required for PJM Customers; otherwise not used
 HU: Required for PJM Customers; otherwise not used
 IU: Not Used
 MU: Not Used

NSPL is for January 1 - December 31

The QTY/DTM loop may be sent twice when the Utility is providing both the current NSPL and the NSPL that will be effective for a subsequent period. This will occur for short period of time between when the future value is sent via the 814C and the effective date of the future value.

For example, you may receive either two loops:

QTY*KZ*476*K1
 DTM*007*****RD8*20130101-20131231
 QTY*KZ*450*K1
 DTM*007*****RD8*20140101-20141231

Or just one:

QTY*KZ*450*K1
 DTM*007*****RD8*20140101-20141231

Ohio EDU Implementation of this segment as per EDI CC 108:

AEP – 3Q 2014
 DP&L and Duke Energy Ohio – by 12/31/14
 FirstEnergy - TBD

Example:

DTM*007*****RD8*20070601-20080531

Data Element Summary

	<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	<u>Attributes</u>
Must Use	DTM01	374	Date/Time Qualifier Code specifying type of date, or time, or both date and time 007 Effective NSPL Effective Date	M ID 3/3
Must Use	DTM05	1250	Date/Time Period Format Qualifier Code indicating the date format, time format, or date and time format RD8 Range of Dates Expressed in Format CCYYMMDD-CCYYMMDD	X ID 2/3
Must Use	DTM06	1251	Date/Time Period Expressed as CCYYMMDD-CCYYMMDD	X AN 1/35

Segment: SE Transaction Set Trailer

Position: 030

Loop:

Level: Summary

Usage: Mandatory

Max Use: 1

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

Syntax Notes:

Semantic Notes:

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

Notes: Required

SE~28~000000001

Data Element Summary

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

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Case No(s). 15-0630-EL-EDI

Summary: Text EDI Implementation Guideline for Ohio - 867 Usage electronically filed by Mr. Brandon S Siegel on behalf of Ohio EDI Working Group