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	Initial Release
Version 1.5.0 May 1, 2001	• 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.
Version 2.0.0 December 31, 2001	• 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
Version 2.1.0 June 30, 2002	▪ 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
Version 2.2.0 October 1, 2005	▪ 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.
Version 2.3.0 March 9, 2010	▪ 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.
Version 2.4.0 February 14, 2012	▪ 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 FirstEnergy'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.
Version 2.5.0 February 15, 2013	• 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 FirstEnergy. 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 FirstEnergy 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.
Version 2.6.0 March 24, 2014	• 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 & FirstEnergy) • 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 FirstEnergy 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)
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 FirstEnergy net meter QTY01 in PL loop)

Version 2.6.2 February 11, 2016	• Incorporate Change Control 127 (AEP OH Net Meter Reporting) • Incorporate Change Control 131 (PM loop optional in 867IU Cancel) • Incorporate Change Control 137v2 (Duke Energy Ohio use of PTD*SU in 867HU)
Version 2.6.3 February, 2017	• Incorporated Change Control 140 (Add the REF*MG to the PTD*PM loop in the 867IU transaction as a Required field) • Incorporated Change Control 142 (Remove comment from Notes and BPT04 C1 related to Duke identifying whether an account has interval data available. Duke to make changes to their system to identify the summary historical usage as DD regardless of whether the account has interval data available. Also fix typo in graybox of X5) • Incorporated Change Control 146 (Update the 867 for monthly usage only to add new codes (71, 76, 85, 97) to the MEA07 in the SU and PL loops and C04002 in the REF*IX for AEP only for AEP's TOU Market Transition) • Incorporated Change Control 151 (Update the DTM04 value in the PTD*PM loop to show the correct value of "ES" for Eastern Standard Time)
Version 2.6.4 February 28, 2018	• Incorporate Change Control 155 (Change to add Dayton Power & Light (DP&L) use of the PTD*BB loop to 867MU/IU which reflects the EDU's billing data for the service at the unit of measure level.) • Incorporate Change Control 156 (Change to add Dayton Power & Light (DP&L) use of the QTY*87 and QTY*9H segments in the PTD*SU, PTD*PL, PTD*BO and PTD*PM loops.) • Incorporated Change Control 160 (Add code 20 – Unavailable (Used when meter data is not available to fill the intervals) to the QTY01 in the PM loop of the 867) • Incorporated Change Control 164 (Clean up the PTD~BC Loop in the 867 to remove the PTD~BD example and update the DTMs to show how it is being sent in production) • Incorporated Change Control 167 (Update the Definitions section of the 867 IG to show the correct processing by FirstEnergy when an HI request is processed) • Incorporate Change Control 168 (Update the Definitions section of the 867 IG to correct the typo under the Duke Energy Ohio 867 Historical Usage where it notes "M76 (Interval Meter)". Should say "M76 (Invalid Meter)".)
Version 2.7.0 July 21, 2020	• Incorporated Change Control 169 to update utilities using Special Meter Configuration (REF*KY) • Incorporated Change Control 170 (Administrative Changes - DP&L is using EST and EDT qualifiers to 867HI and 867IU transactions) • Updated ANSI X12 looping structure • Normalized utility names FirstEnergy, DP&L and AEP
Version 2.7.1 April 14, 2021	• Incorporated Change Control 178 to allow AEP to send Net Meter Indicator on 867 MU and IU. • Incorporated Change Control 179 to require FirstEnergy and AEP to add the BB Loop. • Incorporated Change Control 184 to allow Duke Energy to send Daily Interval Usage. • Administrative Change to clean up N1*8S segment to remove N103 = 9 as it is not used, add EDU DUNS Numbers to N104 and remove code 40 – Receiver from N106 as the EDU is never the receiver of the 867. • Administrative Change to clean up the N1*SJ segment to remove code 41 – Sender from N106 as the CRES is never the sender of the 867. • Administrative Change to remove references to UIG, an organization that no longer exists. The references were on MEA07.

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*1P 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/net meter channel (consumption- usage delivered & generation – usage received). 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. For net metering in the 867HIU, AEP sends single PM loop reporting net usage delivered (consumption), if interval read is net negative (usage received / generation) reports 0KH, no 87/9H qualifiers are sent in 867HIU.

DP&L

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

In the 867HU, DP&L 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, DP&L 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 (Invalid Meter). The CRES may re-submit the request as 814HU and Duke will provide summary level 867HU data.

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 supports both 867HU and 867HIU via EDI in Ohio. If a CRES requests HI and interval data is not available, the request would be accepted with a REF*1P code of HIU (Historical Interval Usage Unavailable) and an 867 Historical usage will be provided.

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. Upon implementation of Change Control 179 scheduled for 2021, AEP will also send the BB Loop.

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

Duke Energy Ohio
In the 867MU, Duke sends a single PTD*BB and PTD*SU loop for each account and a PTD*PL loop for each meter/unit of measure. For unmetered services, Duke sends a single PTD*BB for each account and PTD*BC loop for each unmetered service. In the 867IU, Duke sends a single PTD*BB for each account, and 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*BB will be sent for the account and a 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. Upon implementation of Change Control 179 scheduled for 2021, FirstEnergy will also send the BB Loop.

Daily Usage (867DU):

Duke Energy Ohio
In the 867DU, Duke sends a PTD*BO and a PTD*DL loop for each meter/unit of measure where the BPT04 = DU.

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.

Heading:

	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
M	010	ST	Transaction Set Header	M	1		
M	020	BPT	Beginning Segment for Product Transfer and Resale	M	1		
	050	DTM	Date/Time Reference	O	10		
			LOOP ID - N1			5	
	080	N1	Name	O	1		
	120	REF	Reference Identification	O	12		

Detail:

	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
			LOOP ID - PTD			>1	
M	010	PTD	Product Transfer and Resale Detail	M	1		
	020	DTM	Date/Time Reference	O	10		
			LOOP ID - QTY			>1	
	110	QTY	Quantity	O	1		
	160	MEA	Measurements	O	40		
	190	REF	Reference Identification	O	>1		
	210	DTM	Date/Time Reference	O	10		

Summary:

	Pos. No.	Seg. ID	Name	Req. Des.	Max.Use	Loop Repeat	Notes and Comments
M	030	SE	Transaction Set Trailer	M	1		

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

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

Segment: **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

	Ref. Des.	Data Element	Name	Attributes
M	**BPT01**	**353**	**Transaction Set Purpose Code** Code identifying purpose of transaction set 00 Original Conveys original readings for the account being reported. Also used for Next Day Interval Data (Duke Energy Ohio only), where "DU" populates the BPT04. 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.	**O ID 2/2**

				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)	
				DU	Daily Usage	
					Indicates transaction contains interval data for a one-day period (Next Day Interval Data – Duke Energy Ohio only)	
				X5	Restricted Report	
					Indicates transaction contains summary data (at the meter level), but there are interval meters on the account	
C	**BPT07**	**306**	**Action Code**			**O ID 1/2**
			Code indicating type of action			
			Conditional, Required if final usage reading.			
				F	Final	
					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: **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: Required for LDC Consolidated Bill Ready, not used for Dual Billing or LDC Consolidated Rate Ready

Optional in the Usage Cancel transaction (BPT01=01).

Examples: DTM*649*19990131*2359

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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

	Ref. Des.	Data Element	Name		Attributes	
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		
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			
			002899953	Ohio Power (AEP)		
			006998371	Ohio Edison (FirstEnergy)		
			006999189	Duke Energy Ohio		
			007900293	The Illuminating Company (FirstEnergy)		
			007901739	Columbus Southern (AEP)		
			007904626	Toledo Edison (FirstEnergy)		
			147212336	Dayton Power & Light		
M	**N106**	**98**	**Entity Identifier Code**		**O**	**ID 2/3**
			Code identifying an organizational entity, a physical location, property or an individual			
			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

	Ref. Des.	Data Element	Name		Attributes	
M	**N101**	**98**	**Entity Identifier Code**		**M**	**ID 2/3**
			Code identifying an organizational entity, a physical location, property or an individual			
			SJ	Service Provider		
			CRES			
M	**N102**	**93**	**Name**		**X**	**AN 1/60**
			Free-form name			
			CRES 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			
			CRES 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		

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

	Ref. Des.	Data Element	Name	Attributes
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

	Ref. Des.	Data Element	Name	Attributes
M	**N101**	**98**	**Entity Identifier Code** Code identifying an organizational entity, a physical location, property or an individual 8R Consumer Service Provider (CSP) Customer Customer	**M ID 2/3**
M	**N102**	**93**	**Name** Free-form name Customer Name as documented in the sender's application system.	**X AN 1/60**
C	**N103**	**66**	**Identification Code Qualifier** 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	**X ID 1/2**
C	**N104**	**67**	**Identification Code** Code identifying a party or other code Store Number Condition: Required if available	**X AN 2/80**

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

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification 11 Account Number CRES assigned customer account 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 CRES assigned customer account number	**X AN 1/30**

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: **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.
Conditional - Required for all utilities except AEP, which will use Service Delivery Identification Number (REF*Q5).
REF~12~1239485790

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification 12 Billing Account EDU Account 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 EDU Account Number	**X AN 1/30**

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

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification 45 Old Account Number EDU's Previous Account 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 EDU Previous Account Number	**X AN 1/30**

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
DU: Not Used
REF~BLT~LDC

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** 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 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 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	**X AN 1/30**

Segment: **REF** **Reference Identification (Special Meter Configuration)**
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 in this position, see PTD*FG Loop
HU: Not Used in this position, see PTD*FG Loop
IU: Required for AEP only when net meter is present on an account
MU: Required for AEP only when net meter is present on an account
DU: Not Used
REF~KY~NETMETER

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification KY Site Specific Procedures, Terms, and Conditions Special Meter Configuration	**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 NETMETER Net metering present	**X AN 1/30**

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
DU: Not Used
REF~PC~LDC

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes	
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

	Ref. Des.	Data Element	Name	Attributes	
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification Q5 Property Control Number AEP assigned Service Delivery Identification 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 AEP assigned Service Delivery Identification Number	**X**	**AN 1/30**

Segment: **PTD** **Product Transfer and Resale Detail (BB=Billed 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: Not Used
IU: Required
MU: Required
DU: Not Used

For IU/MU: Any Transformer Loss Factor (MEA~~CO) the KH value in the QTY02 of the BB loop should be representative of the Transformer Loss Factor being applied. No adjustments should be made to the KH values in the QTY02 in the SU, BO, PL or PM loops.

NOTE: The BB loop includes unmetered usage.

DP&L will provide the billed energy **and demand** in the PTD*BB loop. **Since billed demand is reported at the service level and the PTD*BB loop is at the account level, the billed demand will be accompanied by a REF*NH for the rate code which is unique per service on an account.**

One Monthly Billed Summary PTD loop is required for every account reporting kWh & k1 (if applicable) units of measure.
PTD~BB

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**PTD01**	**521**	**Product Transfer Type Code** Code identifying the type of product transfer BB Monthly Billed Summary This information is obtained from the billing system to reflect the billing data for this account at the unit of measure level.	**M ID 2/2**

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
MU: Required
DU: Not Used
DTM~150~19990101

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
M	**DTM01**	**374**	**Date/Time Qualifier** Code specifying type of date or time, or both date and time 150 Service Period Start Beginning Read Date	**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: Not Used
IU: Required
MU: Required
DU: Not Used
DTM~151~19990131

Data Element Summary

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

Segment: **QTY** **Quantity (Billed Kilowatt Hours)**
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: Billed kWh
HI: Not Used
HU: Not Used
IU: Required
MU: Required
DU: Not Used
QTY~D1~22348~KH

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**QTY01**	**673**	**Quantity Qualifier** Code specifying the type of quantity D1 Billed Used when quantity in QTY02 is a "Billed" quantity	**M ID 2/2**
M	**QTY02**	**380**	**Quantity** Numeric value of quantity	**X R 1/15**
M	**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 KH Kilowatt Hour kWh - Kilowatt Hours	**M ID 2/2**

Segment: **QTY** **Quantity (Billed Demand)**
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: Billed Demand - Required if account measures Demand (KW). This must be sent even if Billed (derived) demand is equal to measured demand.
HI: Not Used
HU: Not Used
IU: Required as per above note
MU: Required as per above note
DU: Not Used
QTY~D1~223~K1

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
M	**QTY01**	**673**	**Quantity Qualifier** Code specifying the type of quantity D1 Billed Used when quantity in QTY02 is a "Billed" quantity	**M**	**ID 2/2**
M	**QTY02**	**380**	**Quantity** Numeric value of quantity	**X**	**R 1/15**
M	**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	**M**	**ID 2/2**

Segment: **QTY** **Quantity (Measured Demand)**
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: Measured Demand - Required if account measures Demand (KW).
HI: Not Used
HU: Not Used
IU: Required as per above note
MU: Required as per above note
DU: Not Used
QTY~QD~223~K1

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes	
M	**QTY01**	**673**	**Quantity Qualifier**		**M**	**ID 2/2**
			Code specifying the type of quantity			
			KA	Estimated Quantity Delivered		
				Used when the quantity delivered is estimated		
			QD	Quantity Delivered		
				Quantity is actual		
M	**QTY02**	**380**	**Quantity**		**X**	**R 1/15**
			Numeric value of quantity			
M	**QTY03**	**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		

Segment: **REF** **Reference Identification (EDU Rate Code)**
Position: 190
Loop: QTY Optional
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: Not Used
IU: Required for DP&L if there is billed demand on the account
MU: Required for DP&L if there is billed demand on the account
DU: Not Used
REF~NH~RES

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification NH Rate Card Number EDU Rate Code or tariff	**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 Code or tariff	**X AN 1/30**

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 FirstEnergy 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
DU: Not Used

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. For MU/IU – Data is obtained from the metering system.
PTD~SU

Data Element Summary

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

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
DU: Not Used
DTM~150~19990101

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**DTM01**	**374**	**Date/Time Qualifier** Code specifying type of date or time, or both date and time 150 Service Period Start Beginning Read Date	**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: Not Used
IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.
MU: Required if there are metered services on the account
DU: Not Used
DTM~151~19990131

Data Element Summary

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

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: There will be one QTY loop for each of the QTY03 Units of Measurement listed below that are measured on this account.
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.
HI: Not Used
HU: Required for FirstEnergy only, otherwise not used
IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.
MU: Required if there are metered services on the account
DU: Not Used
QTY~QD~22348~KH

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes	
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. (DP&L, FirstEnergy & Duke Energy Ohio Only)		
			9H	Estimated Quantity Received (Net Metering)		
				Used when the net generation quantity received is estimated. (DP&L, 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:
1 At least one of MEA03 MEA05 MEA06 or MEA08 is required.
2 If MEA05 is present, then MEA04 is required.
3 If MEA06 is present, then MEA04 is required.
4 If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required.
5 Only one of MEA08 or MEA03 may be present.
Semantic Notes:
1 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.
Comments:
1 When citing dimensional tolerances, any measurement requiring a sign (+ or -), or any measurement where a positive (+) value cannot be assumed, use MEA05 as the negative (-) value and MEA06 as the positive (+) value.
Notes: The MEA segment 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.
HI: Not Used
HU: Required for FirstEnergy only, otherwise not used
IU: Required for FirstEnergy when BPT04 = X5, otherwise not used.
MU: Optional for AEP. May be sent by AEP for TOU Market Transition program
DU: Not Used
MEA~~PRQ~772~KH~~~42
MEA~~PRQ~12799~K1~~~51

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**MEA02**	**738**	**Measurement Qualifier** Code identifying a specific product or process characteristic to which a measurement applies PRQ Product Reportable Quantity	**O ID 1/3**
M	**MEA03**	**739**	**Measurement Value** 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.	**X R 1/20**
M	**MEA04**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Figures Appendix for examples of use)	**X**
M	**C00101**	**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 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	**M ID 2/2**

			K4	Kilovolt Amperes		
				kVA - Kilovolt Amperes		
			KH	Kilowatt Hour		
				kWh - Kilowatt Hour		
C	**MEA07**	**935**	**Measurement Significance Code**		**O**	**ID 2/2**
			Code used to benchmark, qualify or further define a measurement value			
			NOTE: Other codes 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		
			71	Low		
				(AEP Only)		
			76	Medium		
				(AEP Only)		
			85	High		
				(AEP Only)		
			97	Maximum		
				(AEP Only)		

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
DU: Not Used
DTM~150~19990101

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
M	**DTM01**	**374**	**Date/Time Qualifier** Code specifying type of date or time, or both date and time 150 Service Period Start Beginning Read Date	**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: 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
DU: Not Used
DTM~151~19990131

Data Element Summary

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

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. FirstEnergy does not use, see PTD*SU loop. AEP will send separate PL loops (same meter number) for net metered customers as delivered/consumption (QTY01 = QD or KA) usage & received/generation (QTY01 = 87 or 9H) usage
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.
DU: Not Used
PTD~PL

Data Element Summary

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

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.
DU: Not Used
DTM~150~19990101

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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.
DU: Not Used
DTM~151~19990131

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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.
DU: Not Used
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. Des.	Data Element	Name	Attributes	
M	**DTM01**	**374**	**Date/Time Qualifier**	**M**	**ID 3/3**
			Code specifying type of date or time, or both date and time		
			514 Transferred		
			Meter Exchange 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 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
DU: Not Used
REF~IX~6.0~KHMON
REF~IX~5.1~KHMON~TU^41
REF~IX~4.2~K1MON~TU^43

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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 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
71	Low
	(AEP Only)
76	Medium
	(AEP Only)
85	High
	(AEP Only)
97	Maximum
	(AEP Only)

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
DU: Not Used
REF~JH~A

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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
DU: Not Used
REF~MG~2222277S

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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
DU: Not Used
REF~MT~KHMON

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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: KHMON Kilowatt Hours Per Month K1015 Kilowatt Demand per 15 minute interval "COMBO" cannot be used in this segment.	**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:
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 & FirstEnergy sends in PTD~FG loop)
IU: Not Used
MU: Not Used
DU: Not Used
REF~LO~GS

Data Element Summary

	Ref. Des.	Data Element	Name	X12 Attributes
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 (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 & FirstEnergy sends in PTD~FG loop)
IU: Not Used
MU: Required if there are metered services on the account
DU: Not Used
REF~NH~RES

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification NH Rate Card Number EDU Rate Code or tariff	**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 Code or tariff	**X AN 1/30**

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
DU: Not Used
REF~PR~HEAT
REF~PR~WHA

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes	
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: 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.
HI: Not Used
HU: Required if there are metered services on the account. NOTE: AEP will send separate PL loops (same meter number) for net metered customers as delivered / consumption (QTY01 = QD or KA) usage & received/generation (QTY01 = 87 or 9H) usage
IU: Not Used
MU: Required if there are metered services on the account
DU: Not Used
QTY~QD~22348~KH

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**QTY01**	**673**	**Quantity Qualifier** 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. (AEP, DP&L, Duke Energy Ohio & FirstEnergy Only) 9H Estimated Quantity Received (Net Metering) Used when the net generation quantity received is estimated. (AEP, DP&L, Duke Energy Ohio & FirstEnergy Only)	**M ID 2/2**
M	**QTY02**	**380**	**Quantity** Numeric value of quantity	**X R 1/15**
M	**QTY03**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Figures Appendix for examples of use) Note this is a composite data element, populate C00101	**O**
M	**C00101**	**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 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	**M ID 2/2**

	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 (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:
1 At least one of MEA03 MEA05 MEA06 or MEA08 is required.
2 If MEA05 is present, then MEA04 is required.
3 If MEA06 is present, then MEA04 is required.
4 If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required.
5 Only one of MEA08 or MEA03 may be present.
Semantic Notes:
1 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.
Comments:
1 When citing dimensional tolerances, any measurement requiring a sign (+ or -), or any measurement where a positive (+) value cannot be assumed, use MEA05 as the negative (-) value and MEA06 as the positive (+) value.
Notes: The MEA segment 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.
HI: Not Used
HU: Not Used
IU: Not Used
MU: Required if there are metered services on the account
DU: Not Used
MEA~AA~PRQ~772~KH~10500~11272~42
MEA~AF~PRQ~12799~K1~~12799~51

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**MEA01**	**737**	**Measurement Reference ID Code** 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	**O ID 2/2**
M	**MEA02**	**738**	**Measurement Qualifier** Code identifying a specific product or process characteristic to which a measurement applies PRQ Product Reportable Quantity	**O ID 1/3**
M	**MEA03**	**739**	**Measurement Value** 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.	**X R 1/20**
M	**MEA04**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Figures Appendix for examples of use)	**X**
M	**C00101**	**355**	**Unit or Basis for Measurement Code** Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	**M ID 2/2**

			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 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		
			71	Low		
				(AEP Only)		
			76	Medium		
				(AEP Only)		
			85	High		
				(AEP Only)		
			97	Maximum		
				(AEP Only)		

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:
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
DU: Not Used
MEA~~MU~1

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**MEA02**	**738**	**Measurement Qualifier** 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	**O ID 1/3**
M	**MEA03**	**739**	**Measurement Value** The value of the measurement Meter Multiplier	**X R 1/20**

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
DU: Not Used
MEA~~ZA~.95

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**MEA02**	**738**	**Measurement Qualifier** 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	**O ID 1/3**
M	**MEA03**	**739**	**Measurement Value** The value of the measurement Power Factor	**X R 1/20**

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:
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
DU: Not Used
MEA~~CO~1.02

Data Element Summary

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

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
DU: Not Used
DTM~150~19990219

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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
DU: Not Used
DTM~151~19990322

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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, FirstEnergy 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
DU: Required
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** Code identifying the type of product transfer BO Designated Items Provides Summary information for each interval meter or unit of measure.	**M ID 2/2**

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
DU: Required
DTM~150~19990101

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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
DU: Required
DTM~151~19990131

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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
DU: Required
REF~IX~6.0~KHMON
REF~IX~4.2~K1MON~TU^43

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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	**C AN 1/30**

Total

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
DU: Required
REF~JH~A

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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 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
DU: Required
REF~MG~2222277S

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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 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
DU: Required
REF~MT~KHMON

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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: KHMON 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
DU: Required
QTY~QD~22348~KH

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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. (DP&L, Duke Energy Ohio Only)	
			9H Estimated Quantity Received (Net Metering)	
			Used when the net generation quantity received is estimated. (DP&L, 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:
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
DU: Required
MEA~AF~~~KH~02500~04000~51

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**MEA01**	**737**	**Measurement Reference ID Code** 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	**O ID 2/2**
M	**MEA04**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Figures Appendix for examples of use)	**X**
M	**C00101**	**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 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	**M ID 2/2**

			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:
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: Required
MU: Not Used
DU: Required
MEA~~MU~1

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**MEA02**	**738**	**Measurement Qualifier** 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	**O ID 1/3**
M	**MEA03**	**739**	**Measurement Value** The value of the measurement Meter Multiplier	**X R 1/20**

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: Required if available
MU: Not Used
DU: Required if available
MEA~~ZA~.95

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**MEA02**	**738**	**Measurement Qualifier** 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	**O ID 1/3**
M	**MEA03**	**739**	**Measurement Value** The value of the measurement Power Factor	**X R 1/20**

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:
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
DU: Required when the transformer loss is not measured by the meter
MEA~~CO~1.02

Data Element Summary

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

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. One PTD loop is required for each meter and/or each unit of measure on the account.
Note for IU: If EDU is reporting separate on/off peak PTD~BO loops, only one PTD~PM loop should be sent. PTD~PM loop is optional when BPT01 = 01 (867IU Cancel)
MU: Not Used
DU: Not Used
PTD~PM

Data Element Summary

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

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: Required
MU: Not Used
DU: Not Used
REF~MG~2222277S

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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
DU: Not Used
QTY~QD~22348

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**QTY01**	**673**	**Quantity Qualifier** Code specifying the type of quantity KA Estimated Quantity is estimated QD Quantity Delivered Quantity is actual 20 Unavailable Used when meter data is not available to fill the intervals FirstEnergy only 87 Actual Quantity Received (Net Metering) Used when the net generation quantity received is actual. (DP&L, FirstEnergy & Duke Energy Ohio Only) 9H Estimated Quantity Received (Net Metering) Used when the net generation quantity received is estimated. (DP&L, FirstEnergy & Duke Energy Ohio Only)	**M ID 2/2**
M	**QTY02**	**380**	**Quantity** Numeric value of quantity	**X R 1/15**
M	**QTY03**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Appendix for examples of use) Note this is a composite data element, populate C00101	**O**
M	**C00101**	**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 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	**M ID 2/2**

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
DU: Not Used
DTM~194~19990115~1500~ET
DTM~194~19990115~1500~ES
DTM~194~19990629~2315~ED

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**DTM01**	**374**	**Date/Time Qualifier** 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 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, 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.	**X TM 4/8**
M	**DTM04**	**623**	**Time Code** 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 ED Eastern Daylight Time (DPL, Duke Energy OH and FirstEnergy) ES Eastern Standard Time (DPL, Duke Energy OH and FirstEnergy) ET Eastern Time (AEP)	**O ID 2/2**

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
DU: Not Used
PTD~BC

Data Element Summary

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

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: Conditional – at least one set of DTMs (DTM~150 and DTM~151) must be sent in position 020 and/or 210
IU: Not Used
MU: Required if there are unmetered service on the account
DU: Not Used
DTM~150~19990101

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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		
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: Conditional – at least one set of DTMs (DTM~150 and DTM~151) must be sent in position 020 and/or 210
IU: Not Used
MU: Required if there are unmetered service on the account
DU: Not Used
DTM~151~19990131

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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: **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 & FirstEnergy sends in PTD~FG loop)
IU: Not Used
MU: Not Used
DU: Not Used
REF~LO~GS

Data Element Summary

	Ref. Des.	Data Element	Name	X12 Attributes
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 (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 & FirstEnergy sends in PTD~FG loop)
IU: Not Used
MU: Required if there are metered services on the account
DU: Not Used
REF~NH~RES

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification NH Rate Card Number EDU Rate Code or tariff	**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 Code or tariff	**X AN 1/30**

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
DU: Not Used
REF~PR~HEAT
REF~PR~WHA

Data Element Summary

	Ref. Des.	Data Element	Name		Attributes	
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
DU: Not Used
REF~PRT~LIGHT

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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
DU: Not Used
QTY~QD~22348~KH

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**QTY01**	**673**	**Quantity Qualifier** 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 ID 2/2**
M	**QTY02**	**380**	**Quantity** Numeric value of quantity This represents the consumption quantity per device	**X R 1/15**
M	**QTY03**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Figures Appendix for examples of use) Note this is a composite data element, populate C00101	**O**
M	**C00101**	**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 EA Each KH Kilowatt Hour kWh	**M ID 2/2**

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: Conditional – at least one set of DTMs (DTM~150 and DTM~151) must be sent in position 020 and/or 210
IU: Not Used
MU: Not Used
DU: Not Used
DTM~150~19990219

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
M	**DTM01**	**374**	**Date/Time Qualifier** Code specifying type of date or time, or both date and time 150 Service Period Start Beginning Read Date	**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**
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: Conditional – at least one set of DTMs (DTM~150 and DTM~151) must be sent in position 020 and/or 210
IU: Not Used
MU: Not Used
DU: Not Used
DTM~151~19990322

Data Element Summary

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

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
DU: 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

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

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
DU: Not Used
REF~BF~15

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
Must Use	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification BF LDC Bill Cycle	**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 (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: Required for AEP, DP&L and FirstEnergy when net meter is present on an account
HU: Required for AEP, DP&L & FirstEnergy when net meter is present on an account
IU: Not Used in this position, see Header
MU: Not Used in this position, see Header
DU: 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: **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 if available
HU: Required for AEP and FirstEnergy (DP&L and Duke send in PTD~PL/BC loops)
IU: Not Used
MU: Not Used
DU: Not Used
REF~LO~GS

Data Element Summary

	Ref. Des.	Data Element	Name		X12 Attributes	
Must Use	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification		**M**	**ID 2/3**
			LO	Load Planning Number Load profile		
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: **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 for AEP and FirstEnergy (DP&L and Duke send in PTD~PL/BC loops)
IU: Not Used
MU: Not Used
DU: Not Used
REF~NH~GS1

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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 FirstEnergy companies (if/when HI supported) & AEP; optional for DP&L and Duke Energy Ohio
HU: Required for FirstEnergy companies & AEP; optional for DP&L and Duke Energy Ohio IU: Not Used
MU: Not Used
DU: Not Used
REF~LF~2

Data Element Summary

	Ref. Des.	Data Element	Name		X12 Attributes	
Must Use	**REF01**	**128**	**Reference Identification Qualifier** Code qualifying the Reference Identification		**M**	**ID 2/3**
			LF	Load Planning Number Loss Factor		
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 (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
DU: Not Used
REF~PR~HEAT
REF~PR~WHA

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
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:
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 FirstEnergy companies (if/when HI supported) & AEP; optional for DP&L and Duke Energy
HU: Required for FirstEnergy companies & AEP; optional for DP&L and Duke Energy Ohio
IU: Not Used
MU: Not Used
DU: Not Used
REF~SV~SECONDARY

Data Element Summary

	Ref. Des.	Data Element	Name	X12 Attributes	
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
DU: 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

	Ref. Des.	Data Element	Name	Attributes
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
DU: 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

	Ref. Des.	Data Element	Name	Attributes	
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
DU: 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

	Ref. Des.	Data Element	Name	Attributes
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
DU: 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

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

Segment: **PTD** **Product Transfer and Resale Detail (Daily Usage)**
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: Not Used
IU: Not Used
MU: Not Used
DU: Required
PTD*DL

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**PTD01**	**521**	**Product Transfer Type Code** Code identifying the type of product transfer DL Daily Usage Provides detail information for each interval meter or unit of measure for a single day.	**M ID 2/2**

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: Not Used
IU: Not Used
MU: Not Used
DU: Required
REF~MG~2222277S

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
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: Not Used
HU: Not Used
IU: Not Used
MU: Not Used
DU: Required
QTY~QD~22348

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes
M	**QTY01**	**673**	**Quantity Qualifier** 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. 9H Estimated Quantity Received (Net Metering) Used when the net generation quantity received is estimated.	**M ID 2/2**
M	**QTY02**	**380**	**Quantity** Numeric value of quantity	**X R 1/15**
M	**QTY03**	**C001**	**Composite Unit of Measure** To identify a composite unit of measure (See Appendix for examples of use) Note this is a composite data element, populate C00101	**O**
M	**C00101**	**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 KH Kilowatt Hour kWh - Kilowatt Hour	**M ID 2/2**

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: Not Used
HU: Not Used
IU: Not Used
MU: Not Used
DU: Required
DTM~194~20210615~0015~ED
DTM~194~20210615~2359~ED

Data Element Summary

	Ref. Des.	Data Element	Name	Attributes	
M	**DTM01**	**374**	**Date/Time Qualifier** 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**	**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, 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.	**X**	**TM 4/8**
M	**DTM04**	**623**	**Time Code** 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 ED Eastern Daylight Time (DPL, Duke Energy OH and FirstEnergy) ES Eastern Standard Time (DPL, Duke Energy OH and FirstEnergy)	**O**	**ID 2/2**

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

	Ref. Des.	Data Element	Name	Attributes
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**

Summary: Application EDI Implementation Guideline for Ohio - 867 Usage electronically filed by Mr. Thomas E Rankin on behalf of Ohio EDI Working Group