Ohio Electric

Implementation Guideline

Electronic **D**ata **I**nterchange

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
Version 2.1.0 June 30, 2002	 demand per Change Control 27 Added note to N1~8R segment to show AP validates on first 4 characters of customer name per change control 48. Added text to title on N1 pages to show which N1 per change control 50 Updated REF~Q5 gray boxes to show SDID per change control 51
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 First Energy's administrative changes as per EDI Change Control 81. Added DTM*649 as optional when BPT01=01 as per EDI Change Control 83. Added DTM*150/151 to SU loop pos 210 for HU as per EDI Change Control 84.
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 FE. Duke Energy Ohio NLT 12/31/2012. Incorporated Service Voltage and Loss Factor to the 867HU as per EDI Change Control 91. Change Effective 5/25/2012 for First Energy companies only, not used by other EDUs. Incorporated administrative changes to notes section and BPT04 as per EDI Change Control 97. No effective date necessary, change is admin only.
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 & FE) Incorporate Change Control 108 (add effective date ranges to PLC & NSPL values) Incorporate Change Control 110 (TOU reporting in 867HU) Incorporate Change Control 111 (Add REFNH, REFLO, REFBF & REFPR to FG loop) Incorporate Change Control 112 (add net meter qualifiers for FE in HU and IU) Incorporate Change Control 115 (add meter number for PM loop for HI) Incorporate Change Control 117 (clarify AEP practice for HU/HI handling)

Summary of Changes

Version 2.6.1 February 13, 2015

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

Definitions:

The following acronyms are used throughout this 867 Guideline.

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

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

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

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

867 Looping

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

Historical Usage (867HU and 867HIU):

AEP

AEP supports both 867HU and 867HIU via EDI. In the event the CRES requests Historical Interval (HI) usage for an account without historical interval history present, AEP will accept the request, send REF*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. For unmetered services, the PTD*FG and PTD*BC loops are sent. In the 867HIU, AEP sends the PTD*FG and a PTD*PM loop for each meter/unit of measure.

DPL

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

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

Duke Energy Ohio

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

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

FirstEnergy

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

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

Monthly Usage (867MU and 867IU):

AEP

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

DPL

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

Duke Energy Ohio

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

Duke Energy Ohio - Billing for Net Metering - Net Consumption

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

Duke Energy Ohio - Billing for Net Metering - Net Generation

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

FirstEnergy

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

867 Product Transfer and Resale Report

Functional Group ID=PT

Introduction:

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

Transaction Set Notes

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

	Segment:	ST T	ransaction Set Header				
	Position:	010					
	Loop:						
	Level:	Heading					
	Usage:	Mandato	rv				
	Max Use:	1	-5				
	Purpose:	To indica	ate the start of a transaction set and to assign a control number				
	Syntax Notes:	10 11010					
	Semantic Notes:	inter	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:	50100	the involce fransaction set).				
	Notes:	Required					
	110105	-	-00000001				
			Data Element Summary				
	Ref.	Data	·				
	Des.	Element	Name	Attı	ributes		
Μ	ST01	143	Transaction Set Identifier Code	Μ	ID 3/3		
			Code uniquely identifying a Transaction Set				
			867 Product Transfer and Resale Report				
Μ	ST02	329	Transaction Set Control Number	Μ	AN 4/9		
			Identifying control number that must be unique within the tr functional group assigned by the originator for a transaction		ion set		

Segment: **BPT** Beginning Segment for Product Transfer and Resale

	Segment:	RL1	Beginning Segn	nent for Product Transfer and Resale	
	Position:	020			
	Loop:	** 1			
	Level: Usage:	Heading Mandato	11 5 7		
	Max Use:	1	l y		
	Purpose:		ate the beginning o	f the Product Transfer and Resale Report	Transaction Set and
	-	transmit	identifying data	_	
0	Syntax Notes:			$\Gamma 06$ is present, then the other is required.	
3	Semantic Notes:		02 identifies the tr	ansfer/resale number.	
			'08 identifies the tr		
				is necessary to reference a Previous Repo	ort Number.
	Comments:				
	Notes:		vailable, if there is	on), then an original 867 must be sent as a any replacement/corrected data.	soon as corrected
		-	~ 199902010001~1	9990131~DD	
				9990131~DD~~~F	
		BPT~01·	~199902020001~1	9990131~DD~~~~1999020100001	
	Ref.	Data	Data Ele	ement Summary	
	Des.	<u>Element</u>	Name		Attributes
Μ	BPT01	353	Transaction Set	Purpose Code	M ID 2/2
			Code identifying	purpose of transaction set	
			00	Original	
				Conveys original readings for the acc	count being
			01	reported.	
			01	Cancellation	
				Readings previously reported for the ignored.	account are to be
			52	Response to Historical Inquiry	
				Response to a request for historical n	neter reading
Μ	BPT02	127	Reference Ident	ification	O AN 1/30
				nation as defined for a particular Transact	ion Set or as
			1 1	Reference Identification Qualifier	••• • • • • • •
				tion identification number assigned by the number must be unique over time.	e originator of this
				e used as a cross reference to the 810 billing at make the other party whole, it will also	
М	BPT03	373		rence numbers will only contain upperca ote that punctuation (spaces, dashes, etc.)	
IVI	DI 105	575	Date expressed a		WI DI 0/0
			-	reation date - the date that the data was p	rocessed by the
			sender's applicati	-	locessed by the
Μ	BPT04	755	Report Type Co		O ID 2/2
			Code indicating t	he title or contents of a document, report	or supporting item
			C1	Cost Data Summary	
				Indicates transaction is an Interval D This will be used when supplier is re summary and detail interval data on a	ceiving both
				only interval meters.	
011102				Note: Duke Energy Ohio also sends t	
OHIO	367 (004010) V2.6.1			8	February 13, 2015

				867HU when the CRES requests summary data on an
			DD	account that contains interval meters.
			DD	Distributor Inventory Report
				Indicates transaction is a monthly metered or
				unmetered transaction (no interval meters in the
			DD	transaction).
			DR	Datalog Report
				Indicates transaction contains some combination of
				Interval, Monthly, and/or Unmetered Data. (Duke Energy Ohio ONLY)
			X5	Restricted Report
				I Indicates transaction contains summary data (at the meter level), but there are interval meters on the account
С	BPT07	306	Action Code	O ID 1/2
			Code indicating typ	e of action
			0 71	
			• • •	red if final usage reading.
			• • •	
			Conditional, Requir	red if final usage reading. Final Final meter read data being sent for this customer. The
			Conditional, Requir	red if final usage reading. Final Final meter read data being sent for this customer. The customer account is final with the EDU or the customer
C	PDT00	127	Conditional, Requir F	red if final usage reading. 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.
С	ВРТ09	127	Conditional, Requir F Reference Identifie	red if final usage reading. 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. cation O AN 1/30
С	ВРТ09	127	Conditional, Requir F Reference Identifie Reference informat	red if final usage reading. 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. Cation O AN 1/30 ion as defined for a particular Transaction Set or as
С	BPT09	127	Conditional, Requir F Reference Identifie Reference informat specified by the Ret	red if final usage reading. 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. cation O AN 1/30 ion as defined for a particular Transaction Set or as ference Identification Qualifier
С	BPT09	127	Conditional, Requir F Reference Identifie Reference informat specified by the Ret When BPT01 = 01	red if final usage reading. 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. cation O AN 1/30 ion as defined for a particular Transaction Set or as ference Identification Qualifier (cancel), this element is required and contains the
С	ВРТ09	127	Conditional, Require F Reference Identifie Reference informat specified by the Ref When BPT01 = 01 transaction identified	red if final usage reading. 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. cation O AN 1/30 ion as defined for a particular Transaction Set or as ference Identification Qualifier
С	ВРТ09	127	Conditional, Requir F Reference Identifie Reference informat specified by the Ret When BPT01 = 01 transaction identific cancelled.	red if final usage reading. 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. cation O AN 1/30 ion as defined for a particular Transaction Set or as ference Identification Qualifier (cancel), this element is required and contains the

M DTM02 373 Date Attributes M DTM02 373 Date X DTM 8/8 M DTM03 337 Time expressed in 24-hour clock time as follows: HHMM, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and		Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	050 Heading Optional 10 To specif 1 At le 2 If D' 3 If eit	TM04 is present, ther ther DTM05 or DTM		orL	DC	
Examples: DTM*649*19990131*2359 Data Element Summary Ref. Data M DTM01 Name Attributes M DTM01 Name Attributes M DTM01 Name Attributes M DTM01 Name Attributes Des. Date/ Element Name Date/Time Qualifier Attributes M DTM01 Mate Date/ Date/String type of date or time, or both date and time Attributes 649 Document Due The date that the non-billing party must provide the 810 transaction back to the billing party. M DTM02 373 Date X DT 8/8 M DTM03 337 Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or			Consolid	ated Rate Ready				
$ \begin{tabular}{ c c c c c c } \hline Ref. & Data & & & & & & & & & & & & & & & & & & $		Examples:		U	transaction (BP101=01).			
$ \begin{array}{c c} M & \begin{array}{c} \underline{Des.} \\ M & DTM01 \end{array} & \begin{array}{c} \underline{Flement} \\ 374 \end{array} & \begin{array}{c} \underline{Name} \\ Date/Time Qualifier \\ Date/Time Qualifier \\ Code specifying type of date or time, or both date and time \\ 649 \end{array} & \begin{array}{c} Document Due \\ \hline The date that the non-billing party must provide the 810 \\ transaction back to the billing party. \end{array} \\ \end{tabular} $				Data Elem	ent Summary			
M DTM02 373 Date Date X DT 8/8 M DTM03 337 Time Time expressed as CCYYMMDD X TM 4/8	М	Des.	Element	Date/Time Qualifie				
transaction back to the billing party. 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				649		* ***	vida ti	ha 910
M DTM03 337 Time Time expressed as CCYYMMDD X TM 4/8 Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or				_		-		
Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or	Μ	DTM02	373		YMMDD	X	DT	8/8
DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99) HHMM format	Μ	DTM03	337	Time expressed in 24-ho HHMMSSDD, where H DD = decimal seconds; c hundredths (00-99)	= hours (00-23), M = minutes (00-59), S = integer	or HHN	MMSSI ds (00-:	D, or 59) and

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	080 N1 C Heading Optional 1 To identi 1 At le 2 If eit 1 This orga prov	fy a party by type of east one of N102 or N ther N103 or N104 is segment, used alone, nizational identificati ide a key to the table 5 and N106 further de	organization, name, and code (103 is required. present, then the other is required. , provides the most efficient method of pro on. To obtain this efficiency the "ID Code maintained by the transaction processing efine the type of entity in N101.	e" (N	104) must
	Notes.	_	EDU COMPANY~1~	007909411~~41		
	Ref. <u>Des.</u>	Data <u>Element</u>		ent Summary	Attı	<u>ributes</u>
M	N101	98	Entity Identifier C			ID 2/3
			Code identifying an individual 8S	organizational entity, a physical location, Consumer Service Provider (CSP) EDU	prop	perty or an
М	N102	93	Name	EDC	X	AN 1/60
	11202		Free-form name			111 (1,00
			EDU Name			
М	N103	66	Identification Code	e Qualifier	Х	ID 1/2
			Code designating th Code (67) 1 9	e system/method of code structure used fo D-U-N-S Number, Dun & Bradstreet D-U-N-S+4, D-U-N-S Number with Fou Suffix		
М	N104	67	Identification Code		X	AN 2/80
			Code identifying a p			
				nber or D-U-N-S + 4 Number		
М	N106	98	Entity Identifier C	ode	0	ID 2/3
			Code identifying an individual 40	organizational entity, a physical location, Receiver	prop	perty or an
			41	Submitter		

	Sogmonte	N1 N	ame (SJ - CRES)			
	Segment: Position:	080	anie (SJ - CKES)			
	Loop:		Optional			
	Level:	Heading	optional			
	Usage:	Optional				
	Max Use:	1				
	Purpose:	To identi	fy a party by type of	organization, name, and code		
	Syntax Notes:		east one of N102 or N			
		2 If eit	ther N103 or N104 is	present, then the other is required.		
	Semantic Notes:	4				
	Comments:			, provides the most efficient method of pro		
				on. To obtain this efficiency the "ID Code		
				maintained by the transaction processing period to the type of entity in N101.	party	/.
	Notes:	Required		enne the type of entity in 10101.		
	100005			~007909422CRES~~40		
			CRES COMPANY~1			
				10		
			Data Elem	ent Summary		
	Ref.	Data				
	Des.	<u>Element</u>	<u>Name</u>		Att	<u>ributes</u>
Μ	N101	98	Entity Identifier C	ode	Μ	ID 2/3
			Code identifying an individual	organizational entity, a physical location,	prop	perty or an
			SJ	Service Provider		
				CRES		
М	N102	93	Name		Χ	AN 1/60
			Free-form name			
			CRES Name			
М	N103	66	Identification Code	a Auglifiar	X	ID 1/2
IVI	11103	00		-		
			Code (67)	e system/method of code structure used fo	n iue	minication
			1	D-U-N-S Number, Dun & Bradstreet		
			9	D-U-N-S+4, D-U-N-S Number with Fou	ır Ch	aracter
				Suffix		laracter
М	N104	67	Identification Cod		Х	AN 2/80
			Code identifying a p	party or other code		
				mber or D-U-N-S $+ 4$ Number		
М	N106	98	Entity Identifier C		0	ID 2/3
141	11100	70	•	organizational entity, a physical location,		
			individual	organizational entity, a physical location,	hiol	only of all
			40	Receiver		
			41	Submitter		
			T1	Suomittei		

	S a a a a a a a a a a	N1 .	ame (RS - Schedulii	na Caandinatan)		
	Segment:		ame (KS - Schedulli	ng Coordinator)		
	Position:	080 N1 (Optional			
	Loop: Level:	Heading	Optional			
	Usage:	Optional				
	Max Use:	1				
	Purpose:	-	fy a party by type of	organization, name, and code		
	Syntax Notes:		east one of N102 or N			
	·	2 If eit	ther N103 or N104 is	present, then the other is required.		
	Semantic Notes:					
	Comments:			, provides the most efficient method of pro ion. To obtain this efficiency the "ID Code		
				maintained by the transaction processing		
				efine the type of entity in N101.	purty	•
	Notes:			ng more than one Scheduling Coordinator	(Not	used by
		AEP)				
		N1~RS~	SCHEDULING COC	ORDINATOR~1~006193212S		
			Data Elem	ent Summary		
	Ref.	Data				
	NCI.					
М	<u>Des.</u> N101	Element 98	<u>Name</u> Entity Identifier C	ode		<u>ibutes</u> ID 2/3
М	Des.	Element	Entity Identifier C Code identifying an	organizational entity, a physical location,	Μ	ID 2/3
М	Des.	Element	Entity Identifier C Code identifying an individual	organizational entity, a physical location,	Μ	ID 2/3
М	Des.	Element	Entity Identifier C Code identifying an	organizational entity, a physical location, Receiving Facility Scheduler	Μ	ID 2/3
	<u>Des.</u> N101	Element 98	Entity Identifier C Code identifying an individual RS	organizational entity, a physical location,	M prop	ID 2/3 erty or an
M	Des.	Element	Entity Identifier C Code identifying an individual RS Name	organizational entity, a physical location, Receiving Facility Scheduler	M prop	ID 2/3
	<u>Des.</u> N101	Element 98	Entity Identifier C Code identifying an individual RS Name Free-form name	organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator	M prop	ID 2/3 erty or an
М	<u>Des.</u> N101 N102	Element 98 93	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling	organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator	M prop	ID 2/3 erty or an AN 1/60
	<u>Des.</u> N101	Element 98	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code	 organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator e Qualifier 	M prop X X	ID 2/3 erty or an AN 1/60 ID 1/2
М	<u>Des.</u> N101 N102	Element 98 93	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code	organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator	M prop X X	ID 2/3 erty or an AN 1/60 ID 1/2
М	<u>Des.</u> N101 N102	Element 98 93	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code Code designating th	 organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator e Qualifier 	M prop X X	ID 2/3 erty or an AN 1/60 ID 1/2
М	<u>Des.</u> N101 N102	Element 98 93	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code Code designating th Code (67)	 a organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator g Coordinator e Qualifier he system/method of code structure used for D-U-N-S Number, Dun & Bradstreet D-U-N-S+4, D-U-N-S Number with For 	M prop X X or Ide	ID 2/3 erty or an AN 1/60 ID 1/2 ntification
М	<u>Des.</u> N101 N102	Element 98 93	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code Code designating th Code (67) 1	 a organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator e Qualifier ae system/method of code structure used for D-U-N-S Number, Dun & Bradstreet D-U-N-S+4, D-U-N-S Number with Fou Suffix 	M prop X X or Ide	ID 2/3 erty or an AN 1/60 ID 1/2 ntification
M	<u>Des.</u> N101 N102 N103	Element 98 93 66	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code Code designating th Code (67) 1 9 Identification Code	 a organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator g Coordinator g Qualifier a system/method of code structure used for D-U-N-S Number, Dun & Bradstreet D-U-N-S+4, D-U-N-S Number with Fou Suffix e 	M prop X X or Idea	ID 2/3 erty or an AN 1/60 ID 1/2 ntification
M	<u>Des.</u> N101 N102 N103	Element 98 93 66	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code Code designating th Code (67) 1 9 Identification Code Code identifying a p	 a organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator g Coordinator g Qualifier a system/method of code structure used for D-U-N-S Number, Dun & Bradstreet D-U-N-S+4, D-U-N-S Number with Fou Suffix e 	M prop X x or Idea ar Cha X	ID 2/3 erty or an AN 1/60 ID 1/2 ntification aracter AN 2/80

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	080 N1 C Heading Optional 1 To identi 1 At le 2 If eit 1 This orga prov 2 N10. Required N1~8R~4	ame (8R - Customer) Optional fy a party by type of organization, name, and code east one of N102 or N103 is required. her N103 or N104 is present, then the other is required. segment, used alone, provides the most efficient method of pro- nizational identification. To obtain this efficiency the "ID Code ide a key to the table maintained by the transaction processing 5 and N106 further define the type of entity in N101. CUSTOMER NAME CUSTOMER NAME~92~STORE 7813	e" (N	104) must
	Ref. <u>Des.</u>	Data <u>Element</u>	Data Element Summary <u>Name</u>	-	ibutes
М	N101	98	Entity Identifier Code Code identifying an organizational entity, a physical location, individual 8R Consumer Service Provider (CSP) Custo	, prop	ID 2/3 perty or an
			Customer		
М	N102	93	Name	Х	AN 1/60
			Free-form name		
			Customer Name as documented in the sender's application sy	stem.	
С	N103	66	Identification Code Qualifier	Х	ID 1/2
			Code designating the system/method of code structure used for Code (67)Condition: Required if available92Assigned by Buyer or Buyer's Agent	or Ide	entification
С	N104	67	Identification Code Code identifying a party or other code Store Number Condition: Required if available	X	AN 2/80

REF Reference Identification (CRES Account Number)

Segm	ent: KE	Reference Identification (CRES Account Number)	
Posit			
$\mathbf{L}_{\mathbf{c}}$	oop: N1	Optional	
Le	evel: Headin	g	
Us	age: Option	al	
Max	Use: 12		
Purp		rify identifying information	
Syntax No	otes: 1 At	least one of REF02 or REF03 is required.	
		either C04003 or C04004 is present, then the other is required.	
		either C04005 or C04006 is present, then the other is required.	
Semantic No	otes: 1 RE	F04 contains data relating to the value cited in REF02.	
Comme		t numbers will only contain uppercase letters (A to Z) and Dis	
	that are Require	nctuation (spaces, dashes, etc.) must be excluded, and leading a part of the account number must be present. ed if previously sent on the Enrollment or Change. 1~1394959 Data Element Summary	and training zeros
R	ef. Data	Duta Element Summary	
De		t Name	<u>Attributes</u>
	F01 128	Reference Identification Qualifier	M ID 2/3
		Code qualifying the Reference Identification	
		11 Account Number	
		CRES assigned customer account nun	nber
RF	F02 127	Reference Identification	X AN 1/30
	14/	Reference information as defined for a particular Transaction	
		specified by the Reference Identification Qualifier	JI Set Of as
		1 7	
		CRES customer account number	

М

DFF	Reference Identification	
КСГ	Reference Identification	(EDU Account Number)

	Segment:	REF	Reference Identification (EDU Account Number)					
	Position:	120						
	Loop:	N1 (Optional					
	Level:	Heading	-					
	Usage:	Optional						
	Max Use:	12						
	Purpose:		y identifying information					
	Syntax Notes:		ast one of REF02 or REF03 is required.					
			her C04003 or C04004 is present, then the other is required.					
			her C04005 or C04006 is present, then the other is required.					
	Semantic Notes:	1 REF	04 contains data relating to the value cited in REF02.					
	Comments: Notes:							
		that punc that are p Condition Identifica	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~12~1239485790					
			Data Element Summary					
	Ref.	Data						
	Des.	<u>Element</u>	Name		<u>ributes</u>			
Μ	REF01	128	Reference Identification Qualifier	Μ	ID 2/3			
			Code qualifying the Reference Identification					
			12 Billing Account					
			EDU Account Number					
М	REF02	127	Reference Identification	х	AN 1/30			
			Reference information as defined for a particular Transaction					
			specified by the Reference Identification Qualifier	Ser	<i>n</i> as			
			EDU Account Number					

REF Reference Identification (Previous EDU Account Number)

Segment:	REF	Reference Ide	entification (Previous EDU Account Numb	er)		
Position:	120					
Loop:	N1 (Optional				
Level:	Heading	-				
Usage:	Optional					
Max Use:	12					
Purpose:	To specif	fy identifying inf	Formation			
Syntax Notes:	1 At le	ast one of REF0	2 or REF03 is required.			
	2 If eit	ther C04003 or C	204004 is present, then the other is required.			
	3 If eit	ther C04005 or C	204006 is present, then the other is required.			
Semantic Notes:	1 REF	04 contains data	relating to the value cited in REF02.			
Comments:						
	that are p Condition all utilitie used by A	ctuation (spaces, dashes, etc.) must be excluded, and leading and trailing zeros part of the account number must be present. on: Required if the account number has changed in the last 60 days. Required for es except AEP, which will use Service Delivery Identification Number. (Not AEP) ~939581900				
		Data B	Element Summary			
Ref.	Data		·			
Des.	Element	<u>Name</u>		Attr	<u>ributes</u>	
REF01	128	Reference Ide	ntification Qualifier	Μ	ID 2/3	
		Code qualifying	g the Reference Identification			
		45	Old Account Number			
			EDU's Previous Account Number			
REF02	127	Reference Ide		x	AN 1/30	
KEFV2	147					
			rmation as defined for a particular Transaction	n Set c	or as	
		1 *	e Reference Identification Qualifier			

EDU Previous Account Number

Μ

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	120 N1 C Heading Optional 12 To specifi 1 At le 2 If eit 3 If eit	Dptional fy identifying informed east one of REF02 of ther C04003 or C04 ther C04005 or C04005	Effication (Billing Type) mation or REF03 is required. 4004 is present, then the other is requ 4006 is present, then the other is requ lating to the value cited in REF02.	
	MU: Re REF~BL	quired		
		Data Fla	ment Summary	
Ref.	Data	Data Ele	ment Summary	
<u>Des.</u> REF01	<u>Element</u> 128	<u>Name</u> Reference Identi	fication Qualifier	<u>Attributes</u> M ID 2/3
			he Reference Identification	
		BLT	Billing Type	
			Identifies whether the bill is cons (LDC) or CRES (ESP), or whether render their own bill. See REF02	er each party will
REF02	127	Reference Identi	fication	X AN 1/30
			ation as defined for a particular Tran deference Identification Qualifier Dual Billing Each party bills the customer for	
		ESP	Energy Supplier Consolidated Bi	•
		LOI	The CRES bills the customer.	
		LDC	Utility Consolidated Billing	
			The EDU bills the customer	

М

DEE

Segment:	KEF	Reference Identi	fication (Party Calculating Charges)	
Position:	120			
Loop:	N1 (Optional		
Level:	Heading	-		
Usage:	Optional			
Max Use:	12			
Purpose:		fy identifying inform		
Syntax Notes:		east one of REF02 of		
			004 is present, then the other is required.	
			006 is present, then the other is required.	
Semantic Notes:	1 REF	⁵ 04 contains data rela	ating to the value cited in REF02.	
Comments:				
Notes:	HI: Not			
	HU: Not			
	IU: Requ			
	MU: Re REF~PC			
	KEF~PC	~LDC		
		Data Elen	nent Summary	
Ref.	Data	Data Elen	nent Summary	
			nent Summary	Attributes
Ref. <u>Des.</u> REF01	Data <u>Element</u> 128	Data Elen <u>Name</u> Reference Identifi		Attributes M ID 2/3
Des.	<u>Element</u>	<u>Name</u> Reference Identifi		
Des.	<u>Element</u>	<u>Name</u> Reference Identifi	ication Qualifier	
Des.	<u>Element</u>	<u>Name</u> Reference Identifi Code qualifying th	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate	M ID 2/3
<u>Des.</u> REF01	Element 128	<u>Name</u> Reference Identifi Code qualifying th PC	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate bill	M ID 2/3
Des.	<u>Element</u>	Name Reference Identifi Code qualifying th PC Reference Identifi	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate bill ication	M ID 2/3 the charges on the X AN 1/30
<u>Des.</u> REF01	Element 128	Name Reference Identifi Code qualifying th PC Reference Identifi Reference informa	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate bill ication tion as defined for a particular Transaction	M ID 2/3 the charges on the X AN 1/30
<u>Des.</u> REF01	Element 128	Name Reference Identifi Code qualifying th PC Reference Identifi Reference informa specified by the Ref	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate bill ication tion as defined for a particular Transaction efference Identification Qualifier	M ID 2/3 the charges on the X AN 1/30 on Set or as
<u>Des.</u> REF01	Element 128	Name Reference Identifi Code qualifying th PC Reference Identifi Reference information specified by the Reference DUAL	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate bill ication tion as defined for a particular Transaction eference Identification Qualifier Each Party calculates its portion of the	M ID 2/3 the charges on the X AN 1/30 on Set or as e bill
<u>Des.</u> REF01	Element 128	Name Reference Identifi Code qualifying th PC Reference Identifi Reference informa specified by the Ref	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate bill ication tion as defined for a particular Transaction efference Identification Qualifier	M ID 2/3 the charges on the X AN 1/30 on Set or as e bill
<u>Des.</u> REF01	Element 128	Name Reference Identifi Code qualifying th PC Reference Identifi Reference information specified by the Reference DUAL	ication Qualifier e Reference Identification Production Code Identifies the party that is to calculate bill ication tion as defined for a particular Transaction eference Identification Qualifier Each Party calculates its portion of the	M ID 2/3 the charges on the X AN 1/30 on Set or as e bill n party

М

REF Dof **T** 1 (05 SDID N

	Segment:	REF	Reference Identification (Q5 = SDID Number)					
	Position:	120						
	Loop:	N1 (Optional					
	Level:	Heading						
	Usage:	Optional						
	Max Use:	12						
	Purpose:		y identifying information					
	Syntax Notes:		east one of REF02 or REF03 is required.					
			her C04003 or C04004 is present, then the other is required.					
			her C04005 or C04006 is present, then the other is required.					
	Semantic Notes: Comments:	1 REF	04 contains data relating to the value cited in REF02.					
	Notes:	punctuati are part c Required	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.	Data						
ъл	Des.	Element	Name Defense Llockiff action Oracliff on		<u>ributes</u>			
Μ	REF01	128	Reference Identification Qualifier	Μ	ID 2/3			
			Code qualifying the Reference Identification					
			Q5 Property Control Number					
			AEP assigned Service Delivery Identification Number					
Μ	REF02	127	Reference Identification	Х	AN 1/30			
			Reference information as defined for a particular Transaction	n Set o	or as			
			specified by the Reference Identification Qualifier					
			AEP assigned Service Delivery Identification Number					

$\label{eq:product} PTD \ \ \ Product \ Transfer \ and \ Resale \ Detail \ (Non-Interval \ Metered \ Services$

~ -8	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
i uipose.	provide identifying data
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required.
Syntax 1 (otest	2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Not Used
	HU: Required for FE only since reporting at account level, otherwise not used
	IU: Required for FirstEnergy when $BPT04 = X5$, otherwise not used.
	MU: Required if there are metered services on the account
	1
	A summary loop will be provided for each type of consumption (unit of measure) for all
	meters on the account. Usage for all meters on the same tariff rate will be summed in this
	loop.
	PTD~SU
	Data Element Summary
Ref	Data

Ref.	Data				
Des.	<u>Element</u>	<u>Name</u>		Attr	<u>ributes</u>
PTD01	521	Product Tr	ansfer Type Code	Μ	ID 2/2
		Code identif	fying the type of product transfer		
		SU	Summary		

 \mathbf{M}

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	020 PTD Detail Optional 10 To specifi 1 At let 2 If D' 3 If eit	Date/Time Reference (Service Period Start) Mandatory Ty pertinent dates and times east one of DTM02 DTM03 or DTM05 is required. TM04 is present, then DTM03 is required. her DTM05 or DTM06 is present, then the other is required.				
	Notes:	 HI: Not Used HU: Not Used IU: Required for FirstEnergy when BPT04 = X5, otherwise not used. MU: Required if there are metered services on the account DTM~150~19990101 					
	Ref.	Data	Data Element Summary				
М	Des. DTM01	Element 374		<u>Attı</u> M	<u>ributes</u> ID 3/3		
IVI	DIMOI	574	Date/Time Qualifier Code specifying type of date or time, or both date and time 150 Service Period Start	IVI	10 3/3		
			Beginning Read Date				
М	DTM02	373	Date Date expressed as CCYYMMDD Date expressed as CCYYMMDD	X	DT 8/8		

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	 DTM Date/Time Reference (Service Period End) 020 PTD Mandatory Detail Optional 10 To specify pertinent dates and times 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. HI: Not Used 					
		MU: Re	uired for FirstEnergy when BPT04 = X5, otherwise not used. quired if there are metered services on the account $51 \sim 19990131$				
	Ref.	Data	Data Element Summary				
	Des.	<u>Element</u>	Name		ributes		
М	DTM01	374	Date/Time Qualifier Code specifying type of date or time, or both date and time 151 Service Period End	М	ID 3/3		
			Ending Read Date		5 5 6 10		
М	DTM02	373	Date Date expressed as CCYYMMDD Date expressed as CCYYMMDD	X	DT 8/8		

Segment:	QTY Quantity
Position:	
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 First Energy only, otherwise not used
	IU: Required for FirstEnergy when $BPT04 = X5$, otherwise not used.
	MU: Required if there are metered services on the account
	QTY~QD~22348~KH

Data Element Summary

			Data Eleni	ent Summary		
	Ref. <u>Des.</u>	Data <u>Element</u>	Name		Attr	ibutes
М	<u>Des.</u> QTY01	<u>673</u>	Quantity Qualifier		M	ID 2/2
	x • -		Code specifying the			
			KA	Estimated		
				Quantity is estimated		
			QD	Quantity Delivered		
			QD	Quantity is actual		
			87	Actual Quantity Received (Net Metering)		
				Used when the net generation quantity receiv (FirstEnergy & Duke Energy Ohio Only)	ved is	actual.
			9H	Estimated Quantity Received (Net Metering		
				Used when the net generation quantity receiv (FirstEnergy & Duke Energy Ohio Only)	ved is	estimated.
Μ	QTY02	380	Quantity		Х	R 1/15
			Numeric value of qu	antity		
Μ	QTY03	C001	Composite Unit of	Measure	0	
			To identify a compo of use)	site unit of measure (See Figures Appen	dix fo	or examples
			Note this is a compo	osite data element, populate C00101		
Μ	C00101	355	Unit or Basis for M	leasurement Code	Μ	ID 2/2
			which a measurement		l, or n	nanner in
			K1	Kilowatt Demand		
			Wa	kW - Represents potential power load r predetermined intervals. Sending K1 va		
			K2	Kilovolt Amperes Reactive Demand		
				kVAR - Reactive power that must be su specific types of customer's equipment;	billat	le when
				kilowatt demand usage meets or exceed parameter. Sending K2 value is optiona		fined
			K3	Kilovolt Amperes Reactive Hour		

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

MEA Measurements (Readings & Time of Use) Segment: **Position:** 160 QTY Loop: 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. The MEA segment is sent for each QTY loop. The MEA will indicate the "time of use" Notes: 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 First Energy only, otherwise not used IU: Required for FirstEnergy when BPT04 = X5, otherwise not used. MU: Not Used MEA~~PRQ~772~KH~~~42 MEA~~PRO~12799~K1~~~51

Data Element Summary

	KCI.	Data				
	Des.	<u>Element</u>	<u>Name</u>		Attr	<u>ibutes</u>
Μ	MEA02	738	Measurement Qua	lifier	0	ID 1/3
			Code identifying a s	specific product or process characteristic t	io whi	ich a
			measurement applie	28		
			PRQ	Product Reportable Quantity		
Μ	MEA03	739	Measurement Valu	ıe	Х	R 1/20
			The value of the me	easurement		
			Represents quantity	of consumption delivered for service per	iod. (Contains the
			difference in the me	eter readings (or as measured by the meter) mult	tiplied by
			various factors, exc	luding Power Factor.		
Μ	MEA04	C001	Composite Unit of	Measure	Х	
			To identify a compo	osite unit of measure (See Figures Appen	dix fo	or examples
			of use)			
Μ	C00101	355	Unit or Basis for N	Aeasurement Code	Μ	ID 2/2
			Code specifying the	e units in which a value is being expressed	l, or m	nanner in
			which a measureme	ent has been taken		
			K1	Kilowatt Demand		
				kW - Represents potential power load r	neasu	red at
				predetermined intervals		
			K2	Kilovolt Amperes Reactive Demand		
				kVAR - Reactive power that must be su		
				specific types of customer's equipment;		
				kilowatt demand usage meets or exceed	s a de	fined
				parameter		
			K3	Kilovolt Amperes Reactive Hour		
				kVARh - Represents actual electricit	• •	
				kilowatt hours; billable when usage mee	ets or e	exceeds
				defined parameters		
			K4	Kilovolt Amperes		

Dof

Data

				kVA - Kilovolt Amperes		
			KH	Kilowatt Hour		
				kWh - Kilowatt Hour		
С	MEA07	935	Measurement Sign	ificance Code	0	ID 2/2
			Code used to bench	mark, qualify or further define a measure	ment	value
			measured by the measurements.	s (as identified by UIG) can be used to id eter, but should not be used to identify tar	•	-
			Condition: If time of	of use meter, this must be sent		
			41	Off Peak		
			42	On Peak		
			43	Intermediate Peak		
				Shoulder		
			51	Totalizer		
				Total		

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes:	DTM Date/Time Reference (Service Period Start) 210 QTY Detail Optional 10 To specify pertinent dates and times 1 At least one of DTM02 DTM03 or DTM05 is required.			
		TM04 is present, then DTM03 is required.		
6	3 If eit	ther DTM05 or DTM06 is present, then the other is required.		
Semantic Notes: Comments:				
Notes:	 HI: Not Used HU: Required if sending SU loop in 867HU, otherwise not used IU: Not Used MU: Not Used DTM~150~19990101 			
		Data Element Summary		
Ref.	Data			
Des.	Element		<u>Attributes</u>	
DTM01	374	Date/Time Qualifier Code specifying type of date or time, or both date and time	M ID 3/3	
		150 Service Period Start		
		Beginning Read Date		
DTM02	373	Date	X DT 8/8	
		Date expressed as CCYYMMDD		
		Date expressed as CCYYMMDD		

Μ

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	 DTM Date/Time Reference (Service Period End) 210 QTY Detail Optional 10 To specify pertinent dates and times 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. HI: Not Used HU: Required if sending SU loop in 867HU, otherwise not used IU: Not Used MU: Not Used DTM~151~19990131 			
5.4		Data Element Summary		
Ref.	Data	Nama		
<u>Des.</u> DTM01	Element 374			<u>ributes</u> ID 3/3
DIMUI	3/4	Date/Time Qualifier Code specifying type of date or time, or both date and time 151 Service Period End	IVI	10 3/3
		Ending Read Date		
DTM02	373	Date	Х	DT 8/8
		Date expressed as CCYYMMDD		
		Date expressed as CCYYMMDD		

Μ

Segment:

PTD Product Transfer and Resale Detail (Non-Interval Metered Services

	Detail)
Position:	010
Loop:	PTD Mandatory
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To indicate the start of detail information relating to the transfer/resale of a product and
	provide identifying data
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required.
	2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Not Used
	HU: Required if there are metered services on the account. First Energy does not use,
	see PTD*SU loop.
	IU: Not Used
	MU: Required if there are metered services on the account One PTD loop is required for
	each meter and/or for each unit of measure on the account.
	PTD~PL

Data Element Summary

			Data Liem	ent Summary		
	Ref.	Data				
	Des.	<u>Element</u>	Name		Attı	ributes
1	PTD01	521	Product Transfer	Type Code	Μ	ID 2/2
			Code identifying th	e type of product transfer		
			PL	Property Level Movement/Sale		

Segment: Position: Loop: Level: Usage: Max Use:	DTN 020 PTD Detail Optional 10	Date/Time Reference (Service Period Start) Mandatory		
Purpose:		fy pertinent dates and times		
Syntax Notes:	2 If D'	east one of DTM02 DTM03 or DTM05 is required. TM04 is present, then DTM03 is required. ther DTM05 or DTM06 is present, then the other is required.		
Semantic Notes: Comments:		and 2 million of 2 million is present, and the other is required.		
Notes:	HI: Not Used HU: Not Used IU: Not Used MU: Required if there are metered services on the account, unless a Meter Exchange Date (DTM~514) is substituted for this code. DTM~150~19990101			
Ref.	Data	Data Element Summary		
<u>Des.</u> DTM01	Element 374	Name Date/Time Qualifier Code specifying type of date or time, or both date and time 150 Service Period Start	<u>Attributes</u> M ID 3/3	
		Beginning Read Date		
DTM02	373	Date Date expressed as CCYYMMDD Date expressed as CCYYMMDD	X DT 8/8	

М

Segment:	DTN	A Date/Time Reference (Service Period End)	
Position:	020		
Loop:	PTD	Mandatory	
Level:	Detail		
Usage:	Optional		
Max Use:	10		
Purpose:		fy pertinent dates and times	
Syntax Notes:		east one of DTM02 DTM03 or DTM05 is required.	
		TM04 is present, then DTM03 is required.	
	3 If eit	ther DTM05 or DTM06 is present, then the other is required.	
Semantic Notes:			
Comments:	TTT XT	¥ Y 1	
Notes:	HI: Not		
	HU: Not		
	IU: Not	Used	
	MIL D.	· · · · · · · · · · · · · · · · · · ·	L (T 1
		quired if there are metered services on the account, unless a M (M_{1}, M_{2}, M_{3})	leter Exchange
	Date (DT	M~514) is substituted for this code.	leter Exchange
	Date (DT		leter Exchange
	Date (DT	M~514) is substituted for this code.	leter Exchange
Ref.	Date (DT	M~514) is substituted for this code. 51~19990131	leter Exchange
Ref. <u>Des.</u>	Date (DT DTM~15	M~514) is substituted for this code. 51~19990131 Data Element Summary	leter Exchange
	Date (DT DTM~15 Data	M~514) is substituted for this code. 51~19990131 Data Element Summary	
Des.	Date (DT DTM~15 Data <u>Element</u>	M~514) is substituted for this code. 51~19990131 Data Element Summary <u>Name</u>	Attributes
Des.	Date (DT DTM~15 Data <u>Element</u>	M~514) is substituted for this code. 51~19990131 Data Element Summary <u>Name</u> Date/Time Qualifier	Attributes
Des.	Date (DT DTM~15 Data <u>Element</u>	M~514) is substituted for this code. 51~19990131 Data Element Summary <u>Name</u> Date/Time Qualifier Code specifying type of date or time, or both date and time	Attributes
Des.	Date (DT DTM~15 Data <u>Element</u>	M~514) is substituted for this code. 51~19990131 Data Element Summary <u>Name</u> Date/Time Qualifier Code specifying type of date or time, or both date and time 151 Service Period End	Attributes
<u>Des.</u> DTM01	Date (DT DTM~15 Data <u>Element</u> 374	M~514) is substituted for this code. 51~19990131 Data Element Summary Name Date/Time Qualifier Code specifying type of date or time, or both date and time 151 Service Period End Ending Read Date	<u>Attributes</u> M ID 3/3
<u>Des.</u> DTM01	Date (DT DTM~15 Data <u>Element</u> 374	M~514) is substituted for this code. 51~19990131 Data Element Summary Name Date/Time Qualifier Code specifying type of date or time, or both date and time 151 Service Period End Ending Read Date Date	<u>Attributes</u> M ID 3/3

М

DTM Date/Time Reference (Meter Exchange Date)

Segment:	DIIVI Date/Time Reference (Meter Exchange Date)	
Position:	020	
Loop:	PTD Mandatory	
Level:	Detail	
Usage:	Optional	
Max Use:	10	
Purpose:	To specify pertinent dates and times	
Syntax Notes:	1 At least one of DTM02 DTM03 or DTM05 is required.	
	2 If DTM04 is present, then DTM03 is required.	
	3 If either DTM05 or DTM06 is present, then the other is required.	
Semantic Notes:		
Comments:		
Notes:	HI: Not Used	
	HU: Not Used	
	IU: Not Used	
	MU: Required when a meter is exchanged.	
	Date Range in the first PTD is shown as:	
	DTM~150~19990201	
	DTM~514~19990214	
	Date Range in the second PTD is shown as:	
	DTM~514~19990214	
	DTM~151~19990228	
Def	Data Element Summary	
Ref.	Data Element Nome	
Des. DTM01	ElementNameAttribute374Date/Time QualifierM ID 3	
DTM01		5/3
	Code specifying type of date or time, or both date and time	

			Code specifying typ	be of date or time, or both date and time		
			514	Transferred		
				Meter Exchange Date		
Μ	DTM02	373	Date		Х	DT 8/8
			Date expressed as C	CCYYMMDD		
			Date expressed as C	CCYYMMDD		

REF Dof ы ntificatio (NI--h f Diala)

	Segment: Position:	REF 030	Reference Identification (Number of Dials)			
	Loop: Level: Usage: Max Use: Purpose:	PTD Detail Optional 20	Mandatory fy identifying information			
	Syntax Notes: Semantic Notes: Comments:	 At le If eit If eit 	east one of REF02 or REF03 is required. ther C04003 or C04004 is present, then the other is required. ther C04005 or C04006 is present, then the other is required. 04 contains data relating to the value cited in REF02.			
	Notes:	HU: Con distingui IU: Not MU: Re REF~IX REF~IX	HI: Not Used HU: Conditional: if Time of Use (TOU) is being sent, the REF~IX must be sent to distinguish the different TOUs. IU: Not Used MU: Required for meters with dials REF~IX~6.0~KHMON REF~IX~5.1~KHMON~TU^41 REF~IX~4.2~K1MON~TU^43			
			Data Element Summary			
М	Ref. <u>Des.</u> REF01	Data <u>Element</u> 128	<u>Name</u> Reference Identification Qualifier		ributes ID 2/3	
			Code qualifying the Reference Identification			
			IX Item Number Number of dials on the meter displayed		V The	
			notation X.Y means that the meter has a of the decimal point and Y dials to the r	X dial		
Μ	REF02	127	Reference Identification	Х	AN 1/30	
			Reference information as defined for a particular Transaction specified by the Reference Identification Qualifier Number of Dials	1 Set o	or as	
Μ	REF03	352	Description	Х	AN 1/80	
			A free-form description to clarify the related data elements a			
С	REF04	C040	Meter Type. See Meter Type (REF~MT) on 814 Enrollment "COMBO" is not a valid code for this element. Reference Identifier	t for v	alid codes.	
C	KEF 04	040	To identify one or more reference numbers or identification specified by the Reference Qualifier	-	ers as	
			Note this is a composite data element. Populate C04001 and Condition: if this is a time of use meter, this must be sent	C040	002.	
С	C04001	128	Reference Identification Qualifier	С	ID 2/3	
C	001001		Code qualifying the Reference Identification	U		
			Condition: if this is a time of use meter, this must be sent			
			TU Trial Location Code			
			Time of Use			
С	C04002	127	Reference Identification	C	AN 1/30	
			Reference information as defined for a particular Transaction specified by the Reference Identification Qualifier			
			NOTE: Other codes (as identified by UIG) can be used to id measured by the meter, but should not be used to identify tar measurements.			
			Condition: if this is a time of use meter, this must be sent			
			41 Off Peak			

42	On Peak
43	Intermediate Peak
	Shoulder
51	Totalizer
	Total

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	030 PTD Detail Optional 20 To specif 1 At le 2 If eit 3 If eit 1 REF	fy identifying informate east one of REF02 or 1 ther C04003 or C0400 ther C04005 or C0400 704 contains data relat	tion	
Notes:	HI: Not HU: Not			
	IU: Not			
	MU: Required if there are metered services on the account REF~JH~A			
	KEL~JU	~A		
Data Element Summary				
Ref.	Data			
D		NT		A 44 •1 •1
<u>Des.</u> REF01	Element		ation Qualifier	Attributes M ID 2/3
<u>Des.</u> REF01		Reference Identific		Attributes M ID 2/3
	Element	Reference Identific Code qualifying the	Reference Identification	
	Element	Reference Identific	Reference Identification Tag	
REF01	Element 128	Reference Identific Code qualifying the JH	Reference Identification Tag Meter Role	
	Element	Reference Identific Code qualifying the JH Reference Identific Reference information	Reference Identification Tag Meter Role	M ID 2/3 X AN 1/30
REF01	Element 128	Reference Identific Code qualifying the JH Reference Identific Reference information specified by the Reference	Reference Identification Tag Meter Role ation on as defined for a particular Transaction erence Identification Qualifier	M ID 2/3 X AN 1/30 Set or as
REF01	Element 128	Reference Identific Code qualifying the JH Reference Identific Reference information specified by the Reference	Reference Identification Tag Meter Role ation on as defined for a particular Transaction erence Identification Qualifier Additive This consumption contributed to the sum	M ID 2/3 X AN 1/30 Set or as
REF01	Element 128	 Reference Identific Code qualifying the JH Reference Identific Reference information specified by the Reference A 	Reference Identification Tag Meter Role ation on as defined for a particular Transaction erence Identification Qualifier Additive This consumption contributed to the sun nothing)	M ID 2/3 X AN 1/30 Set or as

This consumption must be subtracted from the

summarized total

 \mathbf{M}

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 1 To specifi 1 At le 2 If eit 3 If eit 1 REF HI: Not HU: Rec IU: Not MU: Rec	uired if there are metered services on the account				
	_	Data Element Summary				
Ref.	Data	N	• • •	••		
<u>Des.</u> REF01	Element 128	<u>Name</u> Reference Identification Qualifier	<u>Attr</u> M	<u>ributes</u> ID 2/3		
K121 V1	140	Code qualifying the Reference Identification	IVI	11/ 4/3		
		MG Meter Number				
REF02	127	Reference Identification	x	AN 1/30		
	1	Reference information as defined for a particular Transaction				
		specified by the Reference Identification Qualifier				
	Meter Number					

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	REF Reference Identification (Meter Type) 030 PTD Mandatory Detail Optional 20 To specify identifying information 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. 1 REF04 contains data relating to the value cited in REF02. HI: Not Used HU: Required if there are metered services on the account IU: Not Used MU: Required if there are metered services on the account REF~MT~KHMON					
		Data Element Summary				
Ref. <u>Des.</u>	Data <u>Element</u>	Name	<u>Attributes</u>			
REF01	128	Reference Identification Qualifier	M ID 2/3			
		Code qualifying the Reference Identification MT Meter Ticket Number				
		Meter Type				
REF02	127	Reference Identification	X AN 1/30			
		Reference information as defined for a particular Transaction	n Set or as			
		 specified by the Reference Identification Qualifier When REF01 is MT, the meter type is expressed as a five-ch first two characters are the type of consumption, the last three the metering interval reported by the metering agent. Valid v 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 	e characters are			
REF03	352	"COMBO" cannot be used in this segment. Description	X AN 1/80			
		A free-form description to clarify the related data elements a				
		Condition: Required if the account has cogeneration				
		COGEN Cogeneration Meter				

С

Μ

Segment: **REF** Reference Identification (LO=Load Profile)

	Segment.		Reference fuction (EO=Eodu Frome)					
	Position:	030						
	Loop:	PTD	PTD					
	Level:	Detail	Detail					
	Usage:	Optional						
	Max Use:	20						
	Purpose:		fy identifying information					
Synt	tax Notes:		east one of REF02 or REF03 is required.					
			ther C04003 or C04004 is present, then the other is required.					
			ther C04005 or C04006 is present, then the other is required.					
Seman	tic Notes:	1 REF	04 contains data relating to the value cited in REF02.					
С	omments:							
	Notes:		t Used					
			quired for DP&L and Duke Energy Ohio. In the event there a					
			nder an account, the PTD~PL/BC will be looped for each rate	e class	s. (AEP & FE			
			PTD~FG loop)					
		IU: No	t Used					
		MU: No	t Used					
		REF~LO	0~GS					
			Data Element Summary					
	Ref.	Data						
	Des.	Element	Name	X12	<u>2 Attributes</u>			
Must Use	REF01	128	Reference Identification Qualifier	M	ID 2/3			
			Code qualifying the Reference Identification					
			LO Load Planning Number					
			Load profile					
Must Use	REF02	127	Reference Identification	Χ	AN 1/30			
			Reference information as defined for a particular Transaction	on Set	or as			
			specified by the Reference Identification Qualifier					
			· · ·					

REF Reference Identification (EDU Rate Code)

Segment:	KEF 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 & FI	Ξ						
	sends in PTD~FG loop)							
	IU: Not Used							
	MU: Required if there are metered services on the account							
	REF~NH~RES							
		_						
	Data Element Summary							
Ref.	Data							
Des.	Element <u>Name</u> <u>Attributes</u>							
REF01	128Reference Identification QualifierMID 2/3							
	Code qualifying the Reference Identification							
	NH Rate Card Number							

 M
 REF02
 127
 EDU Rate Code or tariff

 M
 Reference Identification
 X
 AN 1/30

 Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier
 EDU Rate Code or tariff

BEE D . C. . tification (FDU D c.

	Segment:	REF	Reference Identification (EDU Rate Subclass)					
	Position:	030						
	Loop:	PTD Mandatory						
	Level:	Detail						
	Usage:	Optional						
	Max Use:	1						
	Purpose:		fy identifying information					
	Syntax Notes:		east one of REF02 or REF03 is required.					
			her C04003 or C04004 is present, then the other is required.					
			her C04005 or C04006 is present, then the other is required.					
	Semantic Notes:	1 REF	04 contains data relating to the value cited in REF02.					
	Comments:							
	Notes:	HI: Not						
		HU: Conditional – send if there are metered services on the account and if it is stored in						
		the EDU system						
		IU: Not						
		MU: Conditional – send if there are metered services on the account and if it is stored in						
		the EDU system						
		REF~PR~HEAT						
		REF~PR~WHA						
	Data Element Summary							
	Ref.	Data						
	Des.	<u>Element</u>	Name		<u>ibutes</u>			
Μ	REF01	128	Reference Identification Qualifier	Μ	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.		1			
Μ	REF02	127	Reference Identification	Х	AN 1/30			
			Reference information as defined for a particular Transaction	1 Set o	or as			
			specified by the Reference Identification Qualifier					
			EDU Rate Subclass or Revenue Class					

		ОТ	Y Quantity				
	Segment:		L Quantity				
	Position:	110 QTY	Optional				
	Loop: Level:	Detail	Optional				
	Usage:	Optional					
	Max Use:	1					
	Purpose:	To speci	fy quantity information	on			
	Syntax Notes:		east one of QTY02 or				
		•		TY04 may be present.			
	Semantic Notes:	1 QTY	704 is used when the	quantity is non-numeric.			
	Comments:	TC		11			
	Notes:			e, as well as on-peak and off-peak, there = PM loop. The MEA segment that follo			
			which time of use the		ws each Q11 will		
		HI: Not		QTT upplies to:			
				tered services on the account			
		IU: Not Used					
		MU: Required if there are metered services on the account					
		QTY~QI	D~22348~KH				
				-			
	D-f	D-4-	Data Elem	ent Summary			
	Ref.	Data Element	Nomo		Attributos		
М	<u>Des.</u> QTY01	Element 673	<u>Name</u> Quantity Qualifier		<u>Attributes</u> M ID 2/2		
111	QIIOI	075	Code specifying the				
			KA	Estimated			
			NA .	Quantity is estimated			
			QD	Quantity Delivered			
			QD	- •			
			07	Quantity is actual			
			87	Actual Quantity Received (Net Metering) Used when the net generation quantity received	ved is actual. (First		
				Energy & Duke Energy Ohio Only)			
			9H	Estimated Quantity Received (Net Metering			
				Used when the net generation quantity recei	ved is estimated.		
Μ	QTY02	380	Quantity	(First Energy & Duke Energy Ohio Only)	X R 1/15		
1,1		200	Numeric value of q	uantity			
м	QTY03	C001	-	•	0		
Μ	Q1105	C001	Composite Unit of				
			of use)	osite unit of measure (See Figures Appen	dix for examples		
				osite data element, populate C00101			
Μ	C00101	355	_	Aeasurement Code	M ID 2/2		
1,1	000101	000		e units in which a value is being expressed			
			which a measureme	• •	i, of manner m		
			K1	Kilowatt Demand			
				kW - Represents potential power load r	neasured at		
				predetermined intervals			
			K2	Kilovolt Amperes Reactive Demand			
				kVAR - Reactive power that must be su	pplied for		
				specific types of customer's equipment;			

defined parameters

Kilovolt Amperes

K3

K4

kVA - Kilovolt Amperes Kilowatt Hour

kWh - Kilowatt Hour

Segment:	MEA Measurements (Readings & Time of Use)									
Position:	160									
Loop:	QTY Optional									
Level:	Detail									
Usage:	Optional									
Max Use:	40									
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances,									
. 1	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									
0011110100	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"									
1.000050	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									
	MEA~AA~PRQ~772~KH~10500~11272~42									
	MEA AE DO 12700 VI 12700 51									

MEA~AF~PRQ~12799~K1~~12799~51

			Data Elen	nent Summary	
	Ref.	Data			
	Des.	Element	<u>Name</u>		<u>Attributes</u>
Μ	MEA01	737	Measurement Ref	ference ID Code	O ID 2/2
			Code identifying the	ne broad category to which a measurement	nt applies
			AA	Meter reading-beginning actual/ending	g actual
			AE	Meter reading-beginning actual/ending	g estimated
			AF	Actual Total	
			EA	Recommended for demand because de only 1 reading. This code will also be Energy Ohio if previous reading is not for units of measure other than demand Meter reading-beginning estimated/en-	used by Duke being supplied d.
			EE	Meter reading-beginning estimated/en	•
М	MEA02	738	Measurement Qu		O ID 1/3
			-	specific product or process characteristic	e to which a
Μ	MEA03	739	Measurement Va	lue	X R 1/20
			The value of the m	easurement	
			difference in the m	y of consumption delivered for service per leter readings (or as measured by the met cluding Power Factor.	
Μ	MEA04	C001	Composite Unit o	f Measure	Χ
			of use)	oosite unit of measure (See Figures Appe	ndix for examples
Μ	C00101	355	Unit or Basis for	Measurement Code	M ID 2/2
			Code specifying th which a measurem K1	e units in which a value is being expresse ent has been taken Kilowatt Demand	ed, or manner in

				kW - Represents potential power load n predetermined intervals	neas	ured at		
			K2	Kilovolt Amperes Reactive Demand				
				kVAR - Reactive power that must be su				
			K3	specific types of customer's equipment; billable when kilowatt demand usage meets or exceeds a defined parameter Kilovolt Amperes Reactive Hour				
				kVARh - Represents actual electricit kilowatt hours; billable when usage mee defined parameters				
			K4	Kilovolt Amperes				
				kVA - Kilovolt Amperes				
			KH	Kilowatt Hour				
				kWh - Kilowatt Hour				
С	MEA05	740	Range Minimum		X	R 1/20		
				g the minimum of the measurement range	;			
			Beginning Reading					
			Required unless MI	EA01 = AF				
Μ	MEA06	741	Range Maximum		X	R 1/20		
				g the maximum of the measurement range	e			
				ingle reading (demand).				
С	MEA07	935	Measurement Sign		0	ID 2/2		
				mark, qualify or further define a measurer				
				es (as identified by UIG) can be used to ide eter, but should not be used to identify tari	•	· •		
			Condition: If time of	of use meter, this must be sent				
			41	Off Peak				
			42	On Peak				
			43	Intermediate Peak				
				Shoulder				
			51	Totalizer				
				Total				

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes:	 MEA Measurements (Meter Multiplier) 160 QTY Optional Detail Optional 40 To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001) 1 At least one of MEA03 MEA05 MEA06 or MEA08 is required. 2 If MEA05 is present, then MEA04 is required.
	 3 If MEA06 is present, then MEA04 is required. 4 If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required.
	5 Only one of MEA08 or MEA03 may be present.
Semantic Notes:	1 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.
Comments:	1 When citing dimensional tolerances, any measurement requiring a sign (+ or -), or any measurement where a positive (+) value cannot be assumed, use MEA05 as the negative (-) value and MEA06 as the positive (+) value.
Notes:	If no meter multiplier, then populate with "1"
	 HI: Not Used HU: Not Used IU: Not Used MU: Required if there are metered services on the account MEA~~MU~1

	Def	Data	Data Eleme	ent Summary	
	Ref.	Data			. .
	Des.	<u>Element</u>	Name		<u>Attributes</u>
Μ	MEA02	738	Measurement Qual	lifier	O ID 1/3
			Code identifying a sp	pecific product or process characteristic t	o which a
			measurement applies	S	
			MU	Multiplier	
				Meter Multiplier	
				(Ending Reading - Beginning Reading) Multiplier = Billed Usage	* Meter
Μ	MEA03	739	Measurement Value	e	X R 1/20
			The value of the mea	asurement	
			Meter Multiplier		

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	160 QTY Detail Optional 40 To specifi and weig 1 At le 2 If M 3 If M 4 If M 5 Only 1 MEA 1 Whet any 1 nega HI: Not HU: Not	Ty physical measurem hts (See Figures App east one of MEA03 M EA05 is present, then EA06 is present, then EA07 is present, then a one of MEA08 or M A04 defines the unit of n citing dimensional measurement where a tive (-) value and ME Used Used Quired if there are me	ents or counts, including dimensions, tole bendix for example of use of C001) IEA05 MEA06 or MEA08 is required. MEA04 is required.	06 is A06. sign (se MF	required. (+ or -), or EA05 as the
			Data Elemo	ent Summary		
	Ref. Des.	Data Element		•	Att	ributes
М	<u>Des.</u> MEA02	738	Measurement Qua	lifier	$\frac{\mathbf{Att}}{0}$	ID 1/3
			Code identifying a s measurement applie ZA	pecific product or process characteristic t s Power Factor	to wh	ich a
				Relationship between watts and volt - an necessary to supply electric load	mpere	es
М	MEA03	739	Measurement Valu	ie	Х	R 1/20
			The value of the me	asurement		
			Power Factor			

MEA Measurements (Transformer Loss Factor)

Segment:	MEA Measurements (Transformer Loss Factor)							
Position:	160							
Loop:	QTY Optional							
Level:	Detail							
Usage:	Optional							
Max Use:	40							
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)							
Syntax Notes:	1 At least one of MEA03 MEA05 MEA06 or MEA08 is required.							
	2 If MEA05 is present, then MEA04 is required.							
	3 If MEA06 is present, then MEA04 is required.							
	4 If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required.							
	5 Only one of MEA08 or MEA03 may be present.							
Semantic Notes:	1 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.							
Comments:	1 When citing dimensional tolerances, any measurement requiring a sign (+ or -), or any measurement where a positive (+) value cannot be assumed, use MEA05 as the negative (-) value and MEA06 as the positive (+) value.							
Notes:	HI: Not Used							
	HU: Not Used							
	IU: Not Used							
	MU: Required if there are metered services on the account and the transformer loss is not							
	measured by the meter							
	MEA~~CO~1.02							

			Data Lienie	ent Summary		
М	Ref. <u>Des.</u> MEA02	Data <u>Element</u> 738	<u>Name</u> Measurement Qual	lifier	<u>Attı</u> O	<u>ributes</u> ID 1/3
			Code identifying a s measurement applies CO	Core Loss	to wh	ich a
				Transformer Loss Factor		
Μ	MEA03	739	Measurement Valu		Х	R 1/20
			The value of the mea	asurement		
			Transformer Loss Fa	actor		

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	DTN 210 QTY Detail Optional 10 To specifi 1 At le 2 If D' 3 If eit HI: Not HU: Not HU: Not MU: Not DTM~15				
	5.4		Data Eleme	ent Summary		
	Ref. Des.	Data Element	Name		A ttr	<u>ributes</u>
Μ	<u>Des.</u> DTM01	<u>374</u>	Date/Time Qualifie	2 r	M	ID 3/3
			Code specifying typ 150	e of date or time, or both date and time Service Period Start		
м		252	Dete	Beginning Read Date	v	DT 0/0
Μ	DTM02	373	Date Date expressed as C	CVYMMDD	X	DT 8/8
			Date expressed as C			

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	DTN 210 QTY Detail Optional 10 To specifi 1 At le 2 If D' 3 If eit HI: Not HU: Rec IU: Not	ed.		
		MU: No DTM~15	t Used 51~19990322		
		-	Data Element Summary		
	Ref.	Data Flomont	Nomo	A ++	ibutos
Μ	<u>Des.</u> DTM01	Element 374	<u>Name</u> Date/Time Qualifier	<u>Aur</u> M	<u>ributes</u> ID 3/3
			Code specifying type of date or time, or both date and time151Service Period End	ne	
			Ending Read Date		
Μ	DTM02	373	Date	X	DT 8/8
			Date expressed as CCYYMMDD		
			Date expressed as CCYYMMDD		

Segment:	PTD Product Transfer and Resale Detail (Interval Meter Services Summary)
Position:	010
Loop:	PTD Optional
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required.
	2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Duke Energy Ohio may send the PTD~BO loop on 867HIU transactions, otherwise not used HU: Not Used
	 IU: Required, First Energy does not use when BPT04 = X5. Note for IU: If EDU is reporting separate on/off peak PTD~BO loops, only one PTD~PM loop should be sent. MU: Not Used One PTD loop is required for each meter or for each unit of measure on the account. PTD~BO

			Data Elei	nent Summary		
Re De	es. El	Data <u>ement</u>	<u>Name</u>	T		<u>ibutes</u>
PT	D01	521	Product Transfer	r Type Code	Μ	ID 2/2
			Code identifying t	he type of product transfer		
			BO	Designated Items		
				Provides Summary information for each or unit of measure.	1 inter	val meter

Segment:	DTN	I Date/Time Refer	rence (Service Period Start)						
Position:	020								
Loop:	PTD	PTD Optional							
Level:	Detail								
Usage:	Optional								
Max Use:	10								
Purpose:	To specif	y pertinent dates and	times						
Syntax Notes:	1 At le	ast one of DTM02 D	TM03 or DTM05 is required.						
	2 If D	ΓM04 is present, then	DTM03 is required.						
	3 If eit	her DTM05 or DTM	06 is present, then the other is required.						
Semantic Notes: Comments:									
Notes:	HI: Not	Used							
Inotes:	HU: Not								
	IU: Requ MU: No								
		i Osed							
	DIMAIS	0~19990101							
		Data Eleme	ent Summary						
Ref.	Data		-						
Des.	<u>Element</u>	<u>Name</u>		Attr	<u>ributes</u>				
DTM01	374	Date/Time Qualifie	r	Μ	ID 3/3				
		Code specifying typ	e of date or time, or both date and time						
		150	Service Period Start						
			Beginning Read Date						
DTM02	373	Date		Х	DT 8/8				
		Date expressed as C	CYYMMDD						
		Date expressed CCY	YYMMDD						

Μ

Segment:	DTN	/ Date/Time Referen	ce (Service Period End)						
Position:	020								
Loop:	PTD	PTD Optional							
Level:	Detail	Detail							
Usage:	Optional								
Max Use:	10								
Purpose:	To specif	y pertinent dates and tin	nes						
Syntax Notes:	1 At le	ast one of DTM02 DTM	103 or DTM05 is required.						
	2 If D	TM04 is present, then D'	TM03 is required.						
	3 If eit	her DTM05 or DTM06	is present, then the other is required.						
Semantic Notes:									
Comments:									
		HI: Not Used HU: Not Used IU: Required							
		1~19990131							
		Data Element	Summary						
Ref.	Data		·						
Des.	Element	Name		<u>Attr</u>	<u>ributes</u>				
DTM01	374	Date/Time Qualifier		Μ	ID 3/3				
		Code specifying type o	f date or time, or both date and time						
		1 7 6 71	ervice Period End						
		_	eginning Read Date						
			Cenning Read Date		D/T 0/0				
DTM02	373	Date		Х	DT 8/8				
		Date expressed as CCY	YYMMDD						
		Date expressed as CCY	YMMDD						

Μ

REF Dof тл **()** T . f Diala)

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 20 To speci 1 At le 2 If ei 3 If ei 1 REF HI: Not HU: No IU: Req MU: No REF~IX	Optional fy identifying inform east one of REF02 or ther C04003 or C040 ther C04005 or C040 604 contains data rela Used t Used uired	REF03 is required. 04 is present, then the other is required. 06 is present, then the other is required. ting to the value cited in REF02.		
			Data Elem	ent Summary		
	Ref.	Data		·	• • •	•1
Μ	<u>Des.</u> REF01	Element 128	<u>Name</u> Reference Identifie	cation Qualifier		<u>ributes</u> ID 2/3
171	KEI VI	120		Reference Identification	111	10 2/3
			IX	Item Number		
				Number of dials on the meter displayed	as X.	Y. The
				notation X.Y means that the meter has X		s to the left
М	REF02	127	Defenence Identifi	of the decimal point and Y dials to the r	-	AN 1/30
IVI	KEFU2	127	Reference Identifie	ion as defined for a particular Transaction	X Set c	
				ference Identification Qualifier	Ser	<i>n</i> as
			Number of Dials			
Μ	REF03	352	Description		Х	AN 1/80
			-	tion to clarify the related data elements an		
			• -	feter Type (REF~MT) on 814 Enrollment	for v	alid codes.
С	REF04	C040	Reference Identifie	valid code for this element. er	0	
-				nore reference numbers or identification r	umbe	ers as
			specified by the Re-	ference Qualifier		
			-	osite data element. Populate C04001 and	C040	002.
-				a time of use meter, this must be sent		
С	C04001	128	Reference Identifie	-	С	ID 2/3
				a time of use meter, this must be sent		
			TU	Trial Location Code		
			10	Time of Use		
С	C04002	127	Reference Identifi		С	AN 1/30
				ion as defined for a particular Transaction		
			specified by the Ret	ference Identification Qualifier		
				a time of use meter, this must be sent		
			41	Off Peak		
			42	On Peak		
			43	Intermediate Peak		
			51	Shoulder Totalizer		
			51	Total		
				10(a)		

DEE

Segment:	REF	Reference	Identification (Meter Role)	
Position:	030			
Loop:	PTD	Optional		
Level:	Detail	-		
Usage:	Optional			
Max Use:	20			
Purpose:	To specif	fy identifying	information	
Syntax Notes:			EF02 or REF03 is required.	
			or C04004 is present, then the other is req	
			or C04006 is present, then the other is req	uired.
Semantic Notes:	1 REF	04 contains da	ata relating to the value cited in REF02.	
Comments:				
Notes:	HI: Not			
	HU: Not			
	IU: Requ			
	MU: No			
	REF~JH	~A		
		Dat	a Element Summary	
-		Dut	a Element Summary	
Ref.	Data			
		Name		Attributes
Ref. <u>Des.</u> REF01	Data <u>Element</u> 128	<u>Name</u> Reference I	dentification Qualifier	Attributes M ID 2/3
Des.	<u>Element</u>	Reference I	dentification Qualifier ying the Reference Identification	
Des.	<u>Element</u>	Reference I	•	
Des.	<u>Element</u>	Reference I Code qualify	ying the Reference Identification	
Des.	<u>Element</u>	Reference I Code qualify JH	ying the Reference Identification Tag	
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in	ying the Reference Identification Tag Meter Role Identification nformation as defined for a particular Tran	M ID 2/3 X AN 1/30
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in	ying the Reference Identification Tag Meter Role Identification	M ID 2/3 X AN 1/30
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by	ying the Reference Identification Tag Meter Role Identification Information as defined for a particular Transitive The Reference Identification Qualifier Additive	M ID 2/3 X AN 1/30 nsaction Set or as
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by	ying the Reference Identification Tag Meter Role Identification nformation as defined for a particular Tran the Reference Identification Qualifier Additive This consumption contributed to	M ID 2/3 X AN 1/30 nsaction Set or as
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by A	ying the Reference Identification Tag Meter Role Identification Information as defined for a particular Transition the Reference Identification Qualifier Additive This consumption contributed to (do nothing)	M ID 2/3 X AN 1/30 nsaction Set or as
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by	ying the Reference Identification Tag Meter Role Identification nformation as defined for a particular Tran- the Reference Identification Qualifier Additive This consumption contributed to (do nothing) Ignore	M ID 2/3 X AN 1/30 nsaction Set or as
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by A	ying the Reference Identification Tag Meter Role Identification nformation as defined for a particular Tran- the Reference Identification Qualifier Additive This consumption contributed to (do nothing) Ignore This consumption did not contri	M ID 2/3 X AN 1/30 nsaction Set or as
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by A	ying the Reference Identification Tag Meter Role Identification nformation as defined for a particular Tran- the Reference Identification Qualifier Additive This consumption contributed to (do nothing) Ignore	M ID 2/3 X AN 1/30 nsaction Set or as
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by A I	ying the Reference Identification Tag Meter Role Identification nformation as defined for a particular Tran the Reference Identification Qualifier Additive This consumption contributed to (do nothing) Ignore This consumption did not contri total (do nothing) Subtractive	M ID 2/3 X AN 1/30 nsaction Set or as to the summarized total
Des. REF01	Element 128	Reference I Code qualify JH Reference I Reference in specified by A I	ying the Reference Identification Tag Meter Role Identification formation as defined for a particular Tran- the Reference Identification Qualifier Additive This consumption contributed to (do nothing) Ignore This consumption did not contri- total (do nothing)	M ID 2/3 X AN 1/30 nsaction Set or as to the summarized total

М

REF Reference Identification (Meter Number)

Segment:	REF Reference Identification (Meter Number)								
Position:	030								
Loop:	PTD Optional								
Level:	Detail								
Usage:	Optional								
Max Use:	20								
Purpose:	To specify identifying information								
Syntax Notes:	1 At least one of REF02 or REF03 is required.								
-	2 If either C04003 or C04004 is present, then the other is required.								
	3 If either C04005 or C04006 is present, then the other is required.								
Semantic Notes:	1 REF04 contains data relating to the value cited in REF02.								
Comments:	-								
Notes:	Meter numbers will contain only uppercase letters (A to Z) and digits (0 to 9). Note that punctuation (spaces, dashes, etc.) must be excluded, and significant leading and trailing zeros that are part of the meter number must be present. HI: Not Used HU: Not Used IU: Required MU: Not Used REF~MG~2222277S								

М	Ref. <u>Des.</u> REF01	Data <u>Element</u> 128	<u>Name</u> Reference Identification Qualifier		ributes ID 2/3
			Code qualifying the Reference Identification		
			MG Meter Number		
Μ	REF02	127	Reference Identification	Х	AN 1/30
			Reference information as defined for a particular Trans specified by the Reference Identification Qualifier Meter Number	action Set o	or as

S	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	REF Reference Identification (Meter Type) 030 PTD Optional Detail Optional 20 To specify identifying information 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. 1 REF04 contains data relating to the value cited in REF02. HI: Not Used HU: Not Used MU: Not Used REF~MT~KHMON					
			Data Element Summary				
	Ref.	Data		A // •• ·			
[<u>Des.</u> REF01	Element 128	<u>Name</u> Reference Identification Qualifier	<u>Attributes</u> M ID 2/3			
			Code qualifying the Reference Identification				
			MT Meter Ticket Number				
			Meter Type				
[REF02	127	Reference Identification	X AN 1/30			
			Reference information as defined for a particular Tra specified by the Reference Identification Qualifier When REF01 is MT, the meter type is expressed as a first two characters are the type of consumption, the the metering interval reported by the metering agent. 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	a five-character field. The last three characters are			

K1015 Kilowatt Demand per 15 minute interval "COMBO" cannot be used in this segment.

М

Μ

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	110 QTY Detail Optional 1 To specif 1 At le 2 Only 1 QTY HI: Not HU: Not IU: Requ MU: No	fy quantity informatio east one of QTY02 or 7 one of QTY02 or QT 704 is used when the c Used t Used uired	QTY04 is required.	
			Data Eleme	ent Summary	
М	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	Name Quantity Qualifier Code specifying the KA		Attributes M ID 2/2
				Quantity is estimated	
			QD	Quantity Delivered	
			87	Quantity is actual Actual Quantity Received (Net Metering) Used when the net generation quantity recei	ved is actual.
			9Н	(Duke Energy Ohio Only) Estimated Quantity Received (Net Metering Used when the net generation quantity recei	
Μ	QTY02	380	Quantity	(Duke Energy Ohio Only)	X R 1/15
	-		Numeric value of qu	antity	
Μ	QTY03	C001	Composite Unit of 1		0
			To identify a compo of use)	site unit of measure (See Figures Appen	dix for examples
			,	site data element, populate C00101	
Μ	C00101	355	Unit or Basis for M	* *	M ID 2/2
			Code specifying the which a measuremen K1	Kilowatt Demand kW - Represents potential power load n	
			K2	predetermined intervals Kilovolt Amperes Reactive Demand	
				kVAR - Reactive power that must be su specific types of customer's equipment; kilowatt demand usage meets or exceed parameter	billable when
			K3	Kilovolt Amperes Reactive Hour kVARh - Represents actual electricit kilowatt hours; billable when usage mee	• •
			K4	defined parameters Kilovolt Amperes	
				kVA - Kilovolt Amperes	
			KH	Kilowatt Hour	
				kWh - Kilowatt Hour	

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	 MEA Measurements (Meter Reads) 160 QTY Optional Detail Optional 40 To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001) 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. 1 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06. 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. HI: Not Used HU: Not Used HU: Not Used IU: Conditional: Send if interval meter has associated monthly begin/end readings. MU: Not Used MEA-AF~~~KH~02500~04000~51 					
			Data Elem	ent Summary			
М	Ref. <u>Des.</u> MEA01	Data <u>Element</u> 737			Attributes O ID 2/2		
				e broad category to which a measurement			
			AA	Meter reading-beginning actual/ending			
			AE	Meter reading-beginning actual/ending	estimated		
			AF	Actual Total Recommended for demand because dem only 1 reading. This code will also be u Energy Ohio if previous reading is not b for units of measure other than demand.	used by Duke being supplied		
			EA	Meter reading-beginning estimated/end	ing actual		
			EE	Meter reading-beginning estimated/end	ing estimated		
М	MEA04	C001	Composite Unit of	Measure	X		
			To identify a compo of use)	osite unit of measure (See Figures Appen	dix for examples		
Μ	C00101	355	Unit or Basis for M	Ieasurement Code	M ID 2/2		
			Code specifying the	units in which a value is being expressed	l, or manner in		
			which a measureme				
			K1	Kilowatt Demand			
				kW - Represents potential power load i	neasured at		
			K2	predetermined intervals			
			K2	Kilovolt Amperes Reactive Demand	nnliad for		
		kVAR - Reactive power that must be supplied for specific types of customer's equipment; billable when kilowatt demand usage meets or exceeds a defined					
			WO.	parameter			
			K3	Kilovolt Amperes Reactive Hour			
				kVARh - Represents actual electricit kilowatt hours; billable when usage mee defined parameters			
			K4	Kilovolt Amperes			

R 1/20
R 1/20

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.
	 If MEA05 is present, then MEA04 is required. If MEA06 is present, then MEA04 is required. If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required. 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 MEA~~MU~1

	Ref.	Data	Data Element Summary	
М	<u>Des.</u> MEA02	Element 738	<u>Name</u> Measurement Qualifier	Attributes O ID 1/3
			Code identifying a specific product or proce measurement applies	ss characteristic to which a
			MU Multiplier	
			Meter Multiplier	
			(Ending Reading - Beg	inning Reading) * Meter
			Multiplier = Billed Usa	ige
Μ	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Meter Multiplier	

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	160 QTY Detail Optional 40 To specifi and weig 1 At le 2 If M 3 If M 4 If M 5 Only 1 MEA 1 Whe any nega HI: Not HU: Not	cify physical measurements or counts, including dimensions, tolerances, variances, ights (See Figures Appendix for example of use of C001) least one of MEA03 MEA05 MEA06 or MEA08 is required. MEA05 is present, then MEA04 is required. MEA06 is present, then MEA04 is required. MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required. hly one of MEA08 or MEA03 may be present. EA04 defines the unit of measure for MEA03, MEA05, and MEA06. hen citing dimensional tolerances, any measurement requiring a sign (+ or -), or y measurement where a positive (+) value cannot be assumed, use MEA05 as the gative (-) value and MEA06 as the positive (+) value. ot Used lot Used equired if available Not Used		
	Def	Data	Data Element Summary		
М	Ref. <u>Des.</u> MEA02	Data <u>Element</u> 738	<u>Name</u> Measurement Qualifier Code identifying a specific product or	Attributes O ID 1/3 process characteristic to which a	
			measurement applies ZA Power Factor		
				ween watts and volt - amperes oly electric load	
Μ	MEA03	739	Measurement Value The value of the measurement	X R 1/20	
			Power Factor		

MEA Massurements (Transformer Loss Factor)

Segment:	ME	A Measurements ("	Fransformer Loss Factor)					
Position:	160							
Loop:	QTY Optional							
Level:	Detail							
Usage:	Optional							
Max Use:	40							
Purpose:	To specif		ents or counts, including dimensions, tol	erances, variances,				
			endix for example of use of C001)					
Syntax Notes:			EA05 MEA06 or MEA08 is required.					
		EA05 is present, then						
		EA06 is present, then						
			at least one of MEA03 MEA05 or MEA	06 is required.				
			EA03 may be present.	100				
Semantic Notes:			f measure for MEA03, MEA05, and ME					
Comments:			tolerances, any measurement requiring a					
			positive (+) value cannot be assumed, us	se MEA05 as the				
			A06 as the positive (+) value.					
Notes:	HI: Not							
	HU: Not							
			ormer loss is not measured by the meter					
	MU: No							
	MEA~~0	20~1.02						
		Data Eleme	ent Summary					
Ref.	Data		·					
Des.	Element	Name		Attributes				
MEA02	738	Measurement Qual	lifier	O ID 1/3				
	Code identifying a specific product or process characteristic to which a							
	measurement applies							
	CO Core Loss							
	Transformer Loss Factor							
MEA03	739	Measurement Valu		X R 1/20				
MEAUS	137		-	л N 1/20				
	The value of the measurement							

Transformer Loss Factor

М

Μ

Segment:	PTD Product Transfer and Resale Detail (Interval Meter Services Detail)
Position:	010
Loop:	PTD Mandatory
Level:	Detail
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required.
	2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Required
	HU: Not Used
	IU: Required if the CRES requests detail interval information on the Enrollment or
	Change Note for IU: If EDU is reporting separate on/off peak PTD~BO loops, only one
	PTD~PM loop should be sent.
	MU: Not Used. One PTD loop is required for each meter and/or each unit of measure on
	the account.
	PTD~PM

Data Element Summary

			Data Elei	nent Summary	
М	Ref. <u>Des.</u> PTD01	Data <u>Element</u> 521	<u>Name</u> Product Transfer	Type Code	<u>Attributes</u> M ID 2/2
			Code identifying the	he type of product transfer	
			PM	Physical Meter Information	
				Provides detail information for each in unit of measure.	terval meter or

 \mathbf{M}

REF	Reference Identification	(Meter Number)

Segment:	REF	Reference Identification (Meter Number)						
Position:	030							
Loop:	PTD Mandatory							
Level:	Detail							
Usage:	Optional							
Max Use:	1							
Purpose:	To specif	y identifying information						
Syntax Notes:		ast one of REF02 or REF03 is required.						
-	2 If eit	her C04003 or C04004 is present, then the other is required.						
	3 If eit	her C04005 or C04006 is present, then the other is required.						
Semantic Notes:		04 contains data relating to the value cited in REF02.						
Comments:								
Notes:	HI: Required							
	HU: No	tUsed						
	IU: Not Used							
	MU: Not Used							
	REF~MO	3~2222277S						
		Data Element Summony						
Ref.	Data	Data Element Summary						
		Name	A +++-	ibutes				
<u>Des.</u> REF01	Element 128	Reference Identification Qualifier	M	ID 2/3				
KLTV1	120	Code qualifying the Reference Identification	IVI	ID 2/3				
		MG Meter Number						
REF02	127	Reference Identification	x	AN 1/30				
KLTV2	147	Reference information as defined for a particular Transactio		111 (1/0 0				
		specified by the Reference Identification Qualifier	n sei C	n as				
		Meter Number						

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	110 QTY Detail Optional 1 To specif 1 At le 2 Only 1 QTY HI: Requ HU: Not	204 is used when the output to used uted if CRES request to Used		lment or Change
			Data Eleme	ent Summary	
М	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	Name Quantity Qualifier Code specifying the KA		Attributes M ID 2/2
			QD	Quantity is estimated Quantity Delivered Quantity is actual	
			87 9H	Actual Quantity Received (Net Meterin Used when the net generation quantity r actual. FirstEnergy & Duke Energy Ohi Estimated Quantity Received (Net Meter Used when the net generation quantity r	eceived is o Only) ering)
М	QTY02	380	Quantity	estimated. (FirstEnergy & Duke Energy	y Ohio Only) X R 1/15
		~~~	Numeric value of qu	-	
Μ	QTY03	C001	Composite Unit of		0
				osite unit of measure (See Appendix for e osite data element, populate C00101	examples of use)
Μ	C00101	355	Unit or Basis for M		M ID 2/2
			Code specifying the which a measuremen K1	units in which a value is being expressed nt has been taken Kilowatt Demand kW - Represents potential power load r predetermined intervals Kilovolt Amperes Reactive Demand	
			K2	kVAR - Reactive power that must be su specific types of customer's equipment; kilowatt demand usage meets or exceed parameter	billable when
			K3	Kilovolt Amperes Reactive Hour kVARh - Represents actual electricity e kilowatt hours; billable when usage mee defined parameters	
			K4	Kilovolt Amperes kVA - Kilovolt Amperes	
			КН	KVA - Kilovoit Amperes Kilowatt Hour kWh - Kilowatt Hour	

	Segment:DTLM Date/Time Reference (Interval End Time)Position:210Loop:QTY OptionalLevel:DetailUsage:OptionalMax Use:10Purpose:To specify pertinent dates and timesSyntax 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:Notes:Notes:Mit: RequiredHI: RequiredHU: Not UsedU: Required if the CRES requests detail interval information on the Enrollment or Change MU: Not UsedMU: Not UsedDTM-194-19990115~1500-ET					
			Data Element Summary			
	Ref.	Data	News		-11 4	
Μ	<u>Des.</u> DTM01	Element 374	<u>Name</u> Date/Time Qualifier	<u>Atti</u> M	<u>ributes</u> ID 3/3	
171		0/4	Code specifying type of date or time, or both date and time	171	10 5/5	
			194 Period End			
			The date/time of the end of the interval			
Μ	<b>DTM02</b>	373	Date	Х	DT 8/8	
			Date expressed as CCYYMMDD			
Μ	DTM03	337	Time	Х	TM 4/8	
М	DTM04	623	Time expressed in 24-hour clock time as follows: HHMM, of HHMMSSD, or HHMMSSDD, where H = hours (00-23), M 59), S = integer seconds (00-59) and DD = decimal seconds; are expressed as follows: D = tenths (0-9) and DD = hundred HHMM, where H = Hours and M = Minutes in Eastern Preva For this transaction, since X12 does not allow 2400 for time, to indicate midnight. For example, midnight between Octobe October 16th will be reflected as 2359 of October 15th. <b>Time Code</b> Code identifying the time. In accordance with International S Organization standard 8601, time can be specified by a + or - in hours in relation to Universal Time Coordinate (UTC) time restricted character, + and - are substituted by P and M in the ET Eastern Time	= min decin lths (0 ailing 2359 er 15t O Standa - and a e; since	nutes (00- nal seconds 00-99) Time (ET). will be used h and <b>ID 2/2</b> urds an indication ce + is a	

Segment:	<b>PTD</b> 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:	
<b>Comments:</b>	
Notes:	HI: Not Used
	HU: Conditional – at least one of the PTD~BC loop must be sent if there are unmetered
	services on the account
	IU: Not Used
	MU: Conditional – at least one of the PTD~BC loop must be sent if there are unmetered
	services on the account
	PTD~BC
	PTD~BD

М	Ref. Des. PTD01	Data <u>Element</u> 521	<u>Name</u> Deaduat Transfor T	umo Codo		<u>ributes</u>
IVI	PTD01	521	Product Transfer T	••	Μ	ID 2/2
			Code identifying the	type of product transfer		
			BC	Issue - Other Agency		
				Unmetered Services Summary		

Segment:	DTN	<b>Date/Time Reference</b> (Service Period Start)						
Position:	020							
Loop:	PTD	PTD Mandatory						
Level:	Detail							
Usage:	Optional							
Max Use:	10							
Purpose:		fy pertinent dates and times						
Syntax Notes:		east one of DTM02 DTM03 or DTM05 is required.						
		ΓM04 is present, then DTM03 is required.						
	3 If eit	her DTM05 or DTM06 is present, then the other is required.						
Semantic Notes:								
Comments:	<b>TTT NT</b>	** 1						
Notes:	HI: Not							
	HU: Rec	A						
	IU: Not Used							
	MU: Required if there are unmetered service on the account DTM~150~19990101							
	DIM~IS	0~19990101						
		Data Element Summary						
Ref.	Data	•						
Des.	<b>Element</b>	Name	Attr	<u>ributes</u>				
<b>DTM01</b>	374	Date/Time Qualifier	Μ	ID 3/3				
		Code specifying type of date or time, or both date and time						
		150 Service Period Start						
DTM02	373	Date	X	DT 8/8				
		Date expressed as CCYYMMDD						
		Date expressed as CCYYMMDD						
		Due opposed us eet i minibb						

Segment:	DTN	<b>Date/Time Reference</b> (Service Period End)							
Position:	020								
Loop:	PTD	PTD Mandatory							
Level:	Detail	Detail							
Usage:	Optional								
Max Use:	10								
Purpose:		y pertinent dates and times							
Syntax Notes:		ast one of DTM02 DTM03 or DTM05 is required.							
		ΓM04 is present, then DTM03 is required.							
	3 If eit	her DTM05 or DTM06 is present, then the other is required.							
Semantic Notes:									
Comments:		** 1							
Notes:	HI: Not Used								
	HU: Req								
	IU: Not Used								
	MU: Required if there are unmetered service on the account DTM~151~19990131								
	$D1 M^{-1}$	1~17770131							
		Data Element Summary							
Ref.	Data	·							
Des.	<b>Element</b>	<u>Name</u>	Attr	ributes					
DTM01	374	Date/Time Qualifier	Μ	ID 3/3					
		Code specifying type of date or time, or both date and time							
		151 Service Period End							
DTM02	373	Date	x	DT 8/8					
D 1 14102	515	2	1	<b>DI</b> 0/0					
		Date expressed as CCYYMMDD							
		Date expressed as CCYYMMDD							

Μ

	Segment:	REF	Reference Identification (LO=Load Profile)			
	Position:	030				
	Loop:	: PTD				
	Level:	Detail				
	Usage:	Optional				
	Max Use:	20				
	<b>Purpose:</b>	To specif	fy identifying information			
Synt	ax Notes:	1 At le	east one of REF02 or REF03 is required.			
-		2 If eit	ther C04003 or C04004 is present, then the other is required	l.		
	tic Notes: omments:		ther C04005 or C04006 is present, then the other is required 04 contains data relating to the value cited in REF02.	I.		
	Notes:	HI: No	t 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 & sends in PTD~FG loop) IU: Not Used MU: Not Used REF~LO~GS						
	Ref.	Data	Data Element Summary			
	Des.	<u>Element</u>	Name	X12	<u>2 Attributes</u>	
Must Use	REF01	128	Reference Identification Qualifier	M	ID 2/3	
			Code qualifying the Reference Identification			
			LO Load Planning Number			
			Load profile			
Must Use	REF02	127	Reference Identification	X	AN 1/30	
		127	Reference information as defined for a particular Transact specified by the Reference Identification Qualifier			

REF	<b>Reference Identification (EDU Rate Code)</b>
	<b>Kelerence Identification</b> (EDU Kate Code)

	Segment:	REF	Reference Identification (EDU Rate Code)		
	Position:	030			
	Loop:	PTD	Mandatory		
	Level:	Detail			
	Usage:	Optional			
	Max Use:	1			
	Purpose:		y identifying information		
	Syntax Notes:		east one of REF02 or REF03 is required.		
			her C04003 or C04004 is present, then the other is required.		
	C		her C04005 or C04006 is present, then the other is required.		
	Semantic Notes:	1 REF	04 contains data relating to the value cited in REF02.		
	Comments:	III. Not	Unad		
	Notes:	HI: Not			tin1
			uired for DP&L and Duke Energy Ohio. In the event there are		
			nder an account, the PTD~PL/BC will be looped for each rate of	class.	(AEP & FE
		sends in I	PTD~FG loop)		
		IU: Not	Usad		
			quired if there are metered services on the account		
		REF~NH	•		
			Data Element Summary		
	Ref.	Data			
	Des.	Element	Name		<u>ibutes</u>
Μ	REF01	128	Reference Identification Qualifier	Μ	ID 2/3
			Code qualifying the Reference Identification		
			NH Rate Card Number		
			EDU Rate Code or tariff		
Μ	REF02	127	Reference Identification	Х	AN 1/30
			Reference information as defined for a particular Transaction	Set o	or as
			specified by the Reference Identification Qualifier		
			EDU Rate Code or tariff		

#### DFF Dof **T** 1 4.6. . . . to Subal

	Segment:	REF	Reference Identification (EDU Rate Subclass)					
	Position:	030						
	Loop:	PTD	Mandatory					
	Level:	Detail						
	Usage:	Optional						
	Max Use:	1						
	Purpose:	To specif	To specify identifying information					
	Syntax Notes:	1 At least one of REF02 or REF03 is required.						
		2 If eit	her C04003 or C04004 is present, then the other is required.					
		<b>3</b> If either C04005 or C04006 is present, then the other is required.						
	Semantic Notes:	<b>1</b> REF04 contains data relating to the value cited in REF02.						
	<b>Comments:</b>							
	Notes:	s: HI: Not Used						
		HU: Conditional – send if there are metered services on the account and if it is stored in						
		the EDU	•					
		IU: Not						
			iditional – send if there are metered services on the account an	d if it	is stored in			
		the EDU	system					
		REF~PR	~HEAT					
		REF~PR	~WHA					
			Data Element Summary					
	Ref.	Data	Duta Element Summary					
	Des.	<u>Element</u>	Name	Attr	<u>ibutes</u>			
Μ	REF01	128	Reference Identification Qualifier		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.					
Μ	REF02	127	Reference Identification	Х	AN 1/30			
			Reference information as defined for a particular Transaction	1 Set o	or as			
			specified by the Reference Identification Qualifier					
			EDU Rate Subclass or Revenue Class					

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 20 To specif <b>1</b> At le <b>2</b> If eit <b>3</b> If eit	Reference Identification (Product Type) Mandatory y identifying information ast one of REF02 or REF03 is required. her C04003 or C04004 is present, then the other is required. her C04005 or C04006 is present, then the other is required. 04 contains data relating to the value cited in REF02.						
10005.	HU: Required IU: Not Used							
	MU: Required if there are unmetered service on the account REF~PRT~LIGHT							
	Data Element Summary							
Ref.	Data	N	• • •	•1 4				
<u>Des.</u> REF01	Element	Name Deference Identification Qualifier		<u>ributes</u> ID 2/3				
KEFV1	128	Reference Identification Qualifier	Μ	10 4/3				
		Code qualifying the Reference Identification						
		PRT Product Type						
	EDU Defined Unmetered Service Type							
REF02	127	Reference Identification	Х	AN 1/30				
		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.

М

Μ

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	110 QTY Detail Optional 1 To specif 1 At la 2 Only 1 QTY HI: Not HU: Rec IU: Not	y one of QTY02 or ( 704 is used when the Used quired Used	or QTY04 is required. QTY04 may be present. e quantity is non-numeric.		
			quired if there are ur D~22348~KH	nmetered service on the account		
			J~22340~KII			
			Data Elen	nent Summary		
	Ref. <u>Des.</u>	Data Element	Name		Att	<u>ributes</u>
Μ	QTY01	<u>673</u>	Quantity Qualifie	r	M	ID 2/2
			Code specifying th	e type of quantity		
			QD	Quantity Delivered		
				Quantity is actual		
				Whether unmetered services are estima or actual, they will be coded as actual.	ted, c	alculated,
М	QTY02	380	Quantity	or actual, mey will be could as actual.	х	R 1/15
	<b>x</b> = = <b>v</b> =		Numeric value of c	quantity		
				consumption quantity per device		
Μ	QTY03	C001	Composite Unit o		0	
	-		To identify a comp	osite unit of measure (See Figures Apper	dix fo	or examples
			of use)			
	C		-	posite data element, populate C00101		
Μ	C00101	355		Measurement Code	M	ID 2/2
			which a measurem	e units in which a value is being expressed ent has been taken	ı, or i	nanner in
			EA	Each		
				Ea		
			КН	Kilowatt Hour		
				kWh		

Segment:	$\mathbf{PTD}$ 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:	<b>1</b> 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:	
<b>Comments:</b>	
Notes:	HI: Required for PJM Customers; otherwise not used
	HU: Required for PJM Customers; otherwise not used
	IU: Not Used
	MU: Not Used
	This PTD Loop will be used to provide Scheduling Determinants, such as the Capacity
	Contribution (a.k.a. Load Responsibility) and Transmission Contribution for PJM
_	customers.
Examples:	PTD*FG
Examples:	

### **Data Element Summary**

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

	Segment:	REF	Reference Identification (BF=LDC Bill Cycle)						
	Position:	030							
	Loop:	PTD	PTD						
	Level:	Detail							
	Usage:	Optional							
	Max Use:	20							
	Purpose:	To speci	fy identifying information						
Synt	ax Notes:	1 At le	east one of REF02 or REF03 is required.						
<ul> <li>2 If either C04003 or C04004 is present, then the other is required.</li> <li>3 If either C04005 or C04006 is present, then the other is required.</li> <li>3 REF04 contains data relating to the value cited in REF02.</li> </ul>									
Notes: HI: Required HU: Required IU: Not Used MU: Not Used REF~BF~15			juired Used t Used						
	-		Data Element Summary						
	Ref.	Data	N	• • •	•1				
Must Use	<u>Des.</u> REF01	Element 128	Name Reference Identification Qualifier	<u>Att</u> M	<u>ributes</u> ID 2/3				
Must Use	KEFUI	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification	IVI	ID 2/3				
Must Use	REF02	127	BFLDC Bill CycleReference IdentificationReference information as defined for a particular Transactionspecified by the Reference Identification Qualifier	X on Set	<b>AN 1/30</b> or as				

	Segment:	REF	Reference Identification (KY=Special Meter Configurat	tion)	
	Position:	030			
	Loop:	PTD			
	Level:	Detail			
	Usage:	Optional			
	Max Use:	20			
	Purpose:	To specif	y identifying information		
Synt	ax Notes:	1 At le	east one of REF02 or REF03 is required.		
		2 If eit	her C04003 or C04004 is present, then the other is required.		
		3 If eit	her C04005 or C04006 is present, then the other is required.		
Seman	tic Notes:	1 REF	04 contains data relating to the value cited in REF02.		
Co	omments: Notes:	HU: Rec IU: Not MU: No		nt	
	Ref.	Data	Data Element Summary		
	Des.	Element	Name	<b>X1</b> 3	<u>Attributes</u>
Must Use	<u>Des.</u> REF01	<u>128</u>	Reference Identification Qualifier	M	ID 2/3
Widst Ose	KEI UI	120	Code qualifying the Reference Identification	171	10 2/5
			KY Site Specific Procedures, Terms, and C	ondi	tions
			Special Meter Configuration	Jonun	10115
Must Use	REF02	127	Reference Identification	X	AN 1/30
Widst Ose	KEF V2	141	Reference information as defined for a particular Transaction		111 ( 1/0 0
			specified by the Reference Identification Qualifier		
			NETMETER Net metering present		
			TALIMLIER Net metering present		

Synt Seman	Segment: Position: Loop: Level: Usage: Max Use: Purpose: ax Notes: tic Notes: omments: Notes:	<ul> <li>REF Reference Identification (LO=Load Profile)</li> <li>030</li> <li>PTD</li> <li>Detail</li> <li>Optional</li> <li>20</li> <li>To specify identifying information</li> <li>1 At least one of REF02 or REF03 is required.</li> <li>2 If either C04003 or C04004 is present, then the other is required.</li> <li>3 If either C04005 or C04006 is present, then the other is required.</li> <li>1 REF04 contains data relating to the value cited in REF02.</li> <li>HI: Required if available</li> <li>HU: Required for AEP and First Energy (DP&amp;L and Duke send in PTD~PL/BC loops)</li> <li>IU: Not Used</li> <li>MU: Not Used</li> </ul>					
		REF~LC	Data Element Summary				
	Ref.	Data					
Marget IIg -	Des.	Element	Name Reference Identification Oralifican		<u>Attributes</u>		
Must Use	REF01	128	<b>Reference Identification Qualifier</b> Code qualifying the Reference Identification	Μ	ID 2/3		
			LO Load Planning Number				
			Load profile				
Must Use	REF02	127	<b>Reference Identification</b> Reference information as defined for a particular Transaction	X on Set	AN 1/30 or as		
		specified by the Reference Identification Qualifier					

Segmen	<b>REF</b> Reference Identification (NH=LDC Rate Class)								
Position	030								
Loop	PTD								
Leve	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	<b>1</b> REF04 contains data relating to the value cited in REF02.								
Comments									
Notes	HI: Required								
	HU: Required for AEP and First Energy (DP&L and Duke send in PTD~PL/BC loops)								
	IU: Not Used								
	MU: Not Used								
	REF~NH~GS1								
	Data Element Summary								
Ref.	Data								
Des.	Element Name Attributes								
Must Use REF0	128Reference Identification QualifierMID 2/3								

			Code qualifyin	ng the Reference Identification		
			NH	LDC Rate Code		
Must Use	REF02	127	Reference Identification		Х	AN 1/30
			Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier			

Segment:	<b>REF</b> 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.
	<b>3</b> 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.
<b>Comments:</b>	
Notes:	HI: Required for First Energy companies (if/when HI supported) & AEP Ohio; optional
	for DP&L and Duke Energy Ohio
	HU: Required for First Energy companies & AEP Ohio; optional for DP&L and Duke
	Energy Ohio IU: Not Used
	MU: Not Used
	REF~LF~2
Ref.	Data Element Summary Data

Must Use	Des. REF01	Element 128		tification Qualifier Reference Identification	<u>X1</u> M	<u>2 Attributes</u> ID 2/3
			LF	Load Planning Number Loss Factor		
Must Use	REF02	127	<b>Reference Iden</b> Reference information Identification Qualifi	on as defined for a particular Transaction Set or as s	X pecified	AN 1/30 by the Reference

#### RFF n (DD - EDU Data Subala .

Segment:	<b>REF</b> Reference Identification (PR = EDU Rate Subclass)						
Position:	)30						
Loop:	TD Mandatory						
Level:	Detail						
Usage:	Dptional						
Max Use:							
<b>Purpose:</b>	To specify identifying information						
Syntax Notes:	At least one of REF02 or REF03 is required.						
·	If either C04003 or C04004 is present, then the other is required.						
	If either C04005 or C04006 is present, then the other is required.						
Semantic Notes:	REF04 contains data relating to the value cited in REF02.						
<b>Comments:</b>							
Notes:	II: Conditional – send if there are metered services on the account if it is stored in the						
	EDU system						
	HU: Conditional – send if there are metered services on the account and if it is stored in						
	the EDU system						
	IU: Not Used						
	MU: Not Used						
	REF~PR~HEAT						
	REF~PR~WHA						
	Data Element Summary						
Ref.	Data						
Des.	lement Name Attributes						
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.						
REF02	127 Reference Identification X AN 1/30						
	Reference information as defined for a particular Transaction Set or as						

Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier EDU Rate Subclass or Revenue Class

Μ

Μ

## **REF** Reference Identification (SV=Service Voltage)

	Segment:	<b>KEF</b> Reference Identification (SV=Service Voltage)					
	<b>Position:</b>	030					
	Loop:	PTD					
	Level:	Detail					
	Usage:	Optional					
	Max Use:	20					
	<b>Purpose:</b>	To specif	fy identifying inform	nation			
Syr	ntax Notes:	1 At le	ast one of REF02 o	r REF03 is required.			
		2 If eit	ther C04003 or C04	004 is present, then the other is req	uired.		
		3 If eit	her C04005 or C04	006 is present, then the other is req	uired.		
Sema	ntic Notes:	1 REF	04 contains data rel	ating to the value cited in REF02.			
(	Comments:						
	Notes:	HI: Requ	uired for First Energ	y companies (if/when HI supporte	d) & AEP C	Dhio; optional	
		for DP&	L and Duke Energy				
		HU: Red	uired for First Ener	gy companies & AEP Ohio; optior	al for DP&	L and Duke	
		Energy C	Dhio				
		IU: Not	Used				
		MU: Not Used					
		REF~SV~SECONDARY					
			Data Eler	nent Summary			
	Ref.	Data		y			
	Des.	Element	Name		X12	2 Attributes	
Must Use	REF01	128	<b>Reference Identif</b> Code qualifying the Re		M	ID 2/3	
			SV	Service Charge Number			
			51	Service Voltage			
Must Use	REF02	127	<b>Reference Identif</b>	ication	Х	AN 1/30	
			Reference information Identification Qualifier	as defined for a particular Transaction Set of	or as specified I	by the Reference	
			PRIMARY	<b>*</b>			
		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.					
<b>Comments:</b>						
Notes:	HI: Required for PJM Customers; otherwise not used					
	HU: Required for PJM Customers; otherwise not used					
	IU: Not Used					
	MU: Not Used					
	Each QTY/MEA/DTM loop conveys consumption information about one metering period.					
	The value provided is at the Account or Service Delivery Identifier Number level for AEP.					
	Zero values may be sent if the EDU is, in fact, stating that there is no contribution for this					
	customer's account					
Example:	QTY*KC*752*K1					

	<b>D</b> 4		Data Eleme	ent Summary
Must Use	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	<u>Name</u> Quantity Qualifier Code specifying the	
			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).
Must Use	QTY02	380	<b>Quantity</b> Numeric value of qu	X R 1/15
Must Use	QTY03	355	Unit or Basis for M Code specifying the which a measurement	units in which a value is being expressed, or manner in
			K1	Kilowatt Demand Represents potential power load measured at predetermined intervals

Segment:       DTTM 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         3       If either DTM05 or DTM06 is present, then the other is required.         Semantic Notes:       Notes:       HI: Required for PJM Customers; otherwise not used         NU:       Not Used       MU: Not Used         MU:       Not Used       MU: Not Used         The QTY/DTM loop may be sent twice depending on the time of year the Historius are sold a second iteration will show the PLC that will be effective in the defined in the DTM segment. Currently the EDUs change the PLC effective June the EDUs are aware of what the next effective PLC will be (typically in Decembe should begin providing it on transactions.         For example, in February 2014 the PLC values would be reported as:       CTY*KC*476*K1         DTM*007****RD8*20130601-20140531       Difference			n will show the in the period e June 1st. Once		
	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				
	Example:		gy - TBD 7****RD8*20070601-20080531		
	•		Data Element Summary		
	Ref. <u>Des.</u>	Data <u>Element</u>	Name	Atti	<u>ributes</u>
Must Use	DTM01	374	Date/Time Qualifier Code specifying type of date, or time, or both date and time 007 Effective PLC Effective Date	Μ	ID 3/3
Must Use	DTM05	1250	Date/Time Period Format Qualifier         Code indicating the date format, time format, or date and time         RD8       Range of Dates Expressed in Format         CCYYMMDD-CCYYMMDD	X me for	<b>ID 2/3</b> rmat
Must Use	DTM06	1251	Date/Time Period Expressed as CCYYMMDD-CCYYMMDD	Х	AN 1/35

Segment:	<b>QTY</b> 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:	<b>1</b> QTY04 is used when the quantity is non-numeric.
<b>Comments:</b>	
Notes:	HI: Required for PJM Customers; otherwise not used
	HU: Required for PJM Customers; otherwise not used
	IU: Not Used
	MU: Not Used
	Each QTY/MEA/DTM loop conveys consumption information about one metering interval. The
	value provided is at the Account or Service Delivery Identifier Number level for AEP
	Zero values may be sent if the EDU is, in fact, stating that there is no contribution for this customer's account.
Example:	OTY*KZ*752*K1
Example.	

Data	Element	Summary
------	---------	---------

			Data Elenie	summary
Must Use	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	<u>Name</u> Quantity Qualifier Code specifying the KZ	
				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).
Must Use	QTY02	380	<b>Quantity</b> Numeric value of qu	X R 1/15
Must Use	QTY03	355	Unit or Basis for M Code specifying the which a measurement	units in which a value is being expressed, or manner in
			K1	Kilowatt Demand Represents potential power load measured at predetermined intervals

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

	Segmer	it: $\mathbf{D} \mathbf{I} \mathbf{N}$	<b>L</b> Date/Time Reference (007=NSPL Effective Date)		
	<b>Position:</b>	210			
	Loop:	QTY			
	Level: Detail				
	Usage:	Optional			
	Max Use:	10			
	<b>Purpose:</b>		fy pertinent dates and times		
Svn	tax Notes:		east one of DTM02 DTM03 or DTM05 is required.		
~ 5			TM04 is present, then DTM03 is required.		
			ther DTM05 or DTM06 is present, then the other is required.		
Semar	ntic Notes:	5 11 61	the D 11105 of D 11100 is present, then the other is required.		
	comments:				
Notes: HI: Required for PJM Customers; otherwise not used					
	10005.		quired for PJM Customers; otherwise not used		
		IU: Not Used			
		MU: No			
		WIC. NO	i Oseu		
		NSPL is	for January 1 - December 31		
		and the N	(/DTM loop may be sent twice when the Utility is providing NSPL that will be effective for a subsequent period. This will etween when the future value is sent via the 814C and the effective of the sent via the sen	l occur	for short period
		For even	nple, you may receive either two loops:		
			Z*476*K1		
		~	17****RD8*20130101-20131231		
			Z*450*K1		
			17****RD8*20140101-20141231		
		DIMOU	//****KD8*20140101-20141251		
			Z*450*K1		
		DTM*00	)7****RD8*20140101-20141231		
			U Implementation of this segment as per EDI CC 108:		
		AEP - 30			
			nd Duke Energy Ohio – by 12/31/14		
		FirstEnei	·gy - TBD		
	Example:	DTM*00	)7****RD8*20070601-20080531		
	5.4	<b>D</b> (	Data Element Summary		
	Ref.	Data	N.	• • •	
	Des.	<u>Element</u>	Name	Attr	<u>ibutes</u>
Must Use	DTM01	374	Date/Time Qualifier	М	ID 3/3
Winst Ose	DIMUI	574	Code specifying type of date, or time, or both date and time		ID 5/5
				/	
			007 Effective		
<b>N</b> <i>A</i> <b>T</b> T	D/D #0.5	1050	NSPL Effective Date	<b>N</b> 7	ID 4/2
Must Use	DTM05	1250	Date/Time Period Format Qualifier	X	ID 2/3
			Code indicating the date format, time format, or date and time	me for	mat
			RD8 Range of Dates Expressed in Format		
			CCYYMMDD-CCYYMMDD		
Must Use	DTM06	1251	Date/Time Period	Х	AN 1/35
			Expressed as CCYYMMDD-CCYYMMDD		

Seg	ment: SE TI	ansaction	Set Trailer			
	Position:	030				
	Loop:					
	Level:	Summary	1			
	Usage:	Mandato	ry			
	Max Use:	1				
	Purpose:		te the end of the transaction set and provide the count of the tra- (including the beginning (ST) and ending (SE) segments)	ansmitted		
	Syntax Notes:					
	Semantic Notes:					
	<b>Comments:</b>		s the last segment of each transaction set.			
	Notes:	Required				
		SE~28~00000001				
			Data Element Summary			
	Ref.	Data				
	Des.	<u>Element</u>	Name	<u>Attributes</u>		
Μ	SE01	96	Number of Included Segments	M N0 1/10		
			Total number of segments included in a transaction set includ	ing ST and SE		
			segments			
Μ	SE02	329	Transaction Set Control Number	M AN 4/9		
			Identifying control number that must be unique within the tra	nsaction set		
			functional group assigned by the originator for a transaction s			

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

3/31/2015 1:17:26 PM

in

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

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