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 Version 2.1.0	 Added note to MEA01 elements in the 867 for Duke Energy Ohio to allow for them to send only current reading (and not previous reading) for all units of measure, not just demand per Change Control 27 Added note to N1~8R segment to show AP validates on first 4 characters of customer
June 30, 2002	 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)
Version 2.6.2 February 11, 2016	 Incorporate Change Control 127 (AEP OH Net Meter Reporting) Incorporate Change Control 131 (PM loop optional in 867IU Cancel) Incorporate Change Control 137v2 (Duke Energy Ohio use of PTD*SU in 867HU)
Version 2.6.3 February, 2017	 Incorporate Change Control 134v2 (Duke Energy Ohio addition of PTD*BB loop) Incorporate Change Control 139 (Duke Energy Ohio and FirstEnergy addition of ES/ED indicators for DST)

Definitions:

The following acronyms are used throughout this 867 Guideline.

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

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

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

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

867 Looping

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

Historical Usage (867HU and 867HIU):

AEP

AEP supports both 867HU and 867HIU via EDI. In the event the CRES requests Historical Interval (HI) usage for an account without historical interval history present, AEP will accept the request, send REF*1P with HIU (Historical Interval Unavailable) and provide the CRES with 867 Historical Usage transaction set.

In the 867HU, AEP sends the PTD*FG loop and a PTD*PL loop for each meter/unit of measure/time of use/net meter channel (consumption- usage delivered & generation – usage received). For unmetered services, the PTD*FG and PTD*BC loops are sent. In the 867HIU, AEP sends the PTD*FG and a PTD*PM loop for each meter/unit of measure. For net metering in the 867HIU, AEP sends single PM loop reporting net usage delivered (consumption), if interval read is net negative (usage received / generation) reports 0KH, no 87/9H qualifiers are sent in 867HIU.

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 a single PTD*BB and PTD*SU loop for each account and a PTD*PL loop for each meter/unit of measure. For unmetered services, Duke sends a single PTD*BB for each account and PTD*BC loop for each unmetered service. In the 867IU, Duke sends a single PTD*BB for each account, and a PTD*BO and a

PTD*PM loop for each meter/unit of measure if the BPT04 = C1. If the BPT04 = X5, only the PTD*BB will be sent for the account and a PTD*BO loop is sent for each meter/unit of measure.

Duke Energy Ohio - Billing for Net Metering - Net Consumption

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

Duke Energy Ohio - Billing for Net Metering - Net Generation

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

FirstEnergy

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

867 Product Transfer and Resale Report

Functional Group ID= \mathbf{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 т	ransaction Set Header						
	Position:	010							
	Loop:		~~~						
	Level:	Heading	Heading						
	Usage:	Mandato	ry						
	Max Use:	1	•						
	Purpose:	To indica	ate the start of a transaction set and to assign a control number	•					
	Syntax Notes:		Ũ						
	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:								
	Notes:	Required							
		-	00000001						
			Data Element Summary						
	Ref.	Data							
	Des.	<u>Element</u>	Name	Att	ributes				
Μ	ST01	143	Transaction Set Identifier Code	Μ	ID 3/3				
			Code uniquely identifying a Transaction Set						
			867 Product Transfer and Resale Report						
\mathbf{M}	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				

BPT Beginning Segment for Product Transfer and Resale

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	020 Heading Mandato 1 To indica transmit 1 If eit 1 BPT 2 BPT 3 BPT 4 BPT 4 BPT 1f BPT01 data is av Required BPT~00- BPT~00-	ry ate the beginning of t identifying data ther BPT05 or BPT0 02 identifies the tran 03 identifies the tran 08 identifies the tran 09 is used when it is = '01' (Cancellation vailable, if there is an ~199902010001~199 ~199902010001~199	sfer/resale date. sfer/resale time. necessary to reference a Previous Report), then an original 867 must be sent as soc y replacement/corrected data. 990131~DD 990131~DD~~~F	Number.
		BLL~01	~199902020001~199	90131~DD~~~~1999020100001	
			Data Elem	ent Summary	
	Ref.	Data Element	Nomo		A thributog
Μ	<u>Des.</u> BPT01	Element 353	<u>Name</u> Transaction Set P	urpose Code	<u>Attributes</u> M ID 2/2
171	DITUI	000		rpose of transaction set	
			00	Original	
				Conveys original readings for the accou	nt being
				reported.	e
			01	Cancellation	
				Readings previously reported for the act	count are to be
			52	ignored.	
			52	Response to Historical Inquiry Response to a request for historical met	or roading
М	BPT02	127	Reference Identifi		O AN 1/30
141	DI 102	127		ion as defined for a particular Transaction	
				ference Identification Qualifier	bet of us
			-	on identification number assigned by the o	riginator of this
			transaction. This n	umber must be unique over time.	
			This code will be u	sed as a cross reference to the 810 billing	document and for
				make the other party whole, it will also be	
			on the 820.		
			Transaction Refere	nce numbers will only contain uppercase l	etters $(\Lambda \text{ to } \mathbf{Z})$ and
				e that punctuation (spaces, dashes, etc.) m	
Μ	BPT03	373	Date		M DT 8/8
			Date expressed as (CCYYMMDD	
				ation date - the date that the data was proc	essed by the
Μ	BPT04	755	sender's application	•	O ID 2/2
IVI	DF 104	755	Report Type Code	title or contents of a document, report or	
			C1	Cost Data Summary	sopporting item
				Indicates transaction is an Interval Data	transaction.
				This will be used when supplier is recei	
				summary and detail interval data on an	
				only interval meters.	C1 on an
OHIC	0867 (004010) V2.6.3			Note: Duke Energy Ohio also sends the 9	January 3, 2017

				867HU when the CRES requests summary data on an
			DD	account that contains interval meters. Distributor Inventory Report
			22	Indicates transaction is a monthly metered or unmetered transaction (no interval meters in the transaction).
			DR	Datalog Report
			X5	Indicates transaction contains some combination of Interval, Monthly, and/or Unmetered Data. (Duke Energy Ohio ONLY) Restricted Report
			10	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 ty	pe of action
			Conditional, Requi	ired if final usage reading.
			F	Final
				Final meter read data being sent for this customer. The customer account is final with the EDU or the customer switched to a new CRES.
С	BPT09	127	Reference Identif	customer account is final with the EDU or the customer switched to a new CRES.

	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 Required Consolid	fy pertinent dates and east one of DTM02 E TM04 is present, the ther DTM05 or DTM for LDC Consolidat ated Rate Ready			DC	
	Examples:	DTM*64	9*19990131*2359				
			Data Flom	ent Summary			
	Ref.	Data	Data Elem	lent Summary			
М	<u>Des.</u> DTM01	Element 374	<u>Name</u> Date/Time Qualifi	er	<u>Att</u> M	ribute ID 3	
				date or time, or both date and time			
			649	Document Due		• 1 .1	010
				The date that the non-billing party mu transaction back to the billing party.	st pro	viae ti	ne 810
Μ	DTM02	373	Date Date expressed as CCYY		X	DT	8/8
Μ	DTM03	337	HHMMSSDD, where H	pur clock time as follows: HHMM, or HHMMSS, = hours (00-23), M = minutes (00-59), S = intege decimal seconds are expressed as follows: D = ten	r secon	ds (00-5), or 59) and

	Segment:	N1 N	ame (8S - EDU)						
	Position:	080							
	Loop:		N1 Optional						
	Level:	Heading							
	Usage:	Optional							
	Max Use:	1							
	Purpose:	To identi	To identify a party by type of organization, name, and code						
	 Syntax Notes: 1 At least one of N102 or N103 is required. 2 If either N103 or N104 is present, then the other is required. 								
	Semantic Notes:			1 / 1					
	Comments:	orga prov	nizational identification ide a key to the table	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:	Required		enne die type of endty in 10101.					
	Totes.	-	EDU COMPANY~1~	007909411~~41					
			Data Eleme	ent Summary					
	Ref.	Data							
	Des.	Element	Name	_		ributes			
Μ	N101	98	Entity Identifier Co	ode	Μ	ID 2/3			
			individual	organizational entity, a physical location,	prop	perty or an			
			8S	Consumer Service Provider (CSP)					
				EDU					
Μ	N102	93	Name		Χ	AN 1/60			
			Free-form name						
			EDU Name						
М	N103	66	Identification Code	Qualifier	X	ID 1/2			
IVI	11105	00		-					
			Code designating the Code (67)	e system/method of code structure used fo	r Iae	entification			
			1	D-U-N-S Number, Dun & Bradstreet					
					Ch	onector			
			9	D-U-N-S+4, D-U-N-S Number with Fou Suffix	r Cn	laracter			
М	N104	67	Identification Code		X	AN 2/80			
IVI	11104	07	Code identifying a p		Λ	AIN 2/00			
				•					
				ber or D-U-N-S + 4 Number					
Μ	N106	98	Entity Identifier Co		0	ID 2/3			
			individual	organizational entity, a physical location,	prop	perty or an			
			40	Receiver					
			41	Submitter					

	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~SJ~C	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 do	present, then the other is required. , provides the most efficient method of proton. To obtain this efficiency the "ID Code maintained by the transaction processing efine the type of entity in N101.	e" (N	104) must
			Data Elem	ent Summary		
	Ref.	Data	•		• • •	
М	<u>Des.</u> N101	<u>Element</u> 98	<u>Name</u> Entity Identifier C		Atta M	<u>ributes</u> ID 2/3
			•	organizational entity, a physical location, Service Provider CRES	proj	
Μ	N102	93	Name		Χ	AN 1/60
			Free-form name			
			CRES Name			
Μ	N103	66	Identification Code	e Qualifier	Χ	ID 1/2
				D-U-N-S Number, Dun & Bradstreet D-U-N-S+4, D-U-N-S Number with Fou Suffix		
Μ	N104	67	Identification Code		X	AN 2/80
			Code identifying a p			
				mber or D-U-N-S + 4 Number		
Μ	N106	98	Entity Identifier C		0	ID 2/3
	11100	20	•	organizational entity, a physical location, Receiver Submitter		

	C 4	N1	leave (DC Calculate						
	Segment:		ame (RS - Schedulin	ng Coordinator)					
	Position:	080							
	Loop: Level:		1						
	Usage:	Optional	Heading						
	Max Use:	1							
	Purpose:	-	fy a party by type of	organization, name, and code					
	Syntax Notes:		east one of N102 or N						
	U			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	party				
	N T (efine the type of entity in N101.		11			
	Notes:	-	when a CRES is usin	ng more than one Scheduling Coordinator	: (Not	used by			
		AEP) N1~RS~	SCHEDUI ING COC	ORDINATOR~1~006193212S					
		111-103-1	SCIEDOLING COC	MDII(A10K-1-0001)32125					
			Data Flem	ent Summary					
	Ref.	Data	Dutu Liem	ent Summary					
	Des.		Name		Attr	ibutes			
Μ	<u>Des.</u> N101	Element 98	<u>Name</u> Entity Identifier C	lode	<u>Attr</u> M	ributes ID 2/3			
М		<u>Element</u>	Entity Identifier C		Μ	ID 2/3			
М		<u>Element</u>	Entity Identifier C	ode organizational entity, a physical location,	Μ	ID 2/3			
М		<u>Element</u>	Entity Identifier C Code identifying an		Μ	ID 2/3			
Μ		<u>Element</u>	Entity Identifier C Code identifying an individual	organizational entity, a physical location,	Μ	ID 2/3			
M		<u>Element</u>	Entity Identifier C Code identifying an individual	organizational entity, a physical location, Receiving Facility Scheduler	Μ	ID 2/3			
	N101	<u>Element</u> 98	Entity Identifier C Code identifying an individual RS	organizational entity, a physical location, Receiving Facility Scheduler	M , prop	ID 2/3 Derty or an			
	N101	<u>Element</u> 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 Derty or an			
М	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 berty or an AN 1/60			
	N101	<u>Element</u> 98	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code	a organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator e Qualifier	M , prop X X	ID 2/3 berty or an AN 1/60 ID 1/2			
М	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	M , prop X X	ID 2/3 berty or an AN 1/60 ID 1/2			
М	N101 N102	Element 98 93	Entity Identifier C Code identifying an individual RS Name Free-form name Name of Scheduling Identification Code	a organizational entity, a physical location, Receiving Facility Scheduler Scheduling Coordinator g Coordinator e Qualifier he system/method of code structure used for	M , prop X X	ID 2/3 berty or an AN 1/60 ID 1/2			
М	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 he system/method of code structure used for D-U-N-S Number, Dun & Bradstreet	M , prop X X or Ide	ID 2/3 berty or an AN 1/60 ID 1/2 entification			
М	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 e Qualifier he system/method of code structure used for	M , prop X X or Ide	ID 2/3 berty or an AN 1/60 ID 1/2 entification			
М	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	 organizational entity, a physical location, Receiving Facility Scheduler Scheduling 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 Suffix 	M , prop X X or Ide	ID 2/3 berty or an AN 1/60 ID 1/2 entification			
M	N101 N102 N103	<u>Element</u> 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	 organizational entity, a physical location, Receiving Facility Scheduler Scheduling 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 Suffix e 	M , prop X X or Ide	ID 2/3 berty or an AN 1/60 ID 1/2 entification aracter			
M	N101 N102 N103	<u>Element</u> 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	 organizational entity, a physical location, Receiving Facility Scheduler Scheduling 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 Suffix e 	M , prop X or Ide ur Ch X	ID 2/3 berty or an AN 1/60 ID 1/2 entification aracter AN 2/80			

	Segment: Position: Loop:	080	ame (8R - Customer	r)					
	Loop. Level:	Heading	F						
	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:	1 101							
	Comments:	orga prov 2 N10	nizational identificati ide a key to the table 5 and N106 further de	, 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:	Required							
			CUSTOMER NAME CUSTOMER NAME Data Elem						
	Ref.	Data	Data Liem	ent Summary					
	Des.	Element	Name		Att	ributes			
Μ	N101	98	Entity Identifier C	ode	Μ	ID 2/3			
			Code identifying an individual 8R	organizational entity, a physical location. Consumer Service Provider (CSP) Custo					
				Customer					
М	N102	93	Name		X	AN 1/60			
			Free-form name		-				
				documented in the sender's application sy	stem				
С	N103	66	Identification Code		Χ	ID 1/2			
_			Code designating th Code (67)	e system/method of code structure used fo	or Ide	entification			
			Condition: Required						
			92	Assigned by Buyer or Buyer's Agent					
С	N104	67	Identification Code		Х	AN 2/80			
			Code identifying a p	party or other code					
			Store Number						
			Condition: Required	l if available					

DEE			
KEF	Reference Identification	(CRES	Account Number)

	Segment:	KEF	Reference Identification (CRES Account Number)						
	Position:	120	120						
	Loop:	N1 (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:	1 REF	04 contains data relating to the value cited in REF02.						
	Comments: Notes:								
		that punc	numbers will only contain uppercase letters (A to Z) and Digit tuation (spaces, dashes, etc.) must be excluded, and leading ar art of the account number must be present.						
			if previously sent on the Enrollment or Change.						
		-	-1394959						
		КЕГ~11^	~1394939						
			Data Element Summary						
	Ref.	Data							
	Des.	Element	Name		ributes				
Μ	REF01	128	Reference Identification Qualifier	Μ	ID 2/3				
			Code qualifying the Reference Identification						
			11 Account Number						
			CRES assigned customer account numb	ber					
Μ	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						
			CRES customer account number						

REF Pofe Ide ntificati 4 NI. mh

	Segment:	REF	Reference Identification (EDU Account Number)							
	Position:	120								
	Loop:	N1 (N1 Optional							
	Level:	Heading	Heading							
	Usage:	Optional	•							
	Max Use:	12	12							
	Purpose:		To specify identifying information							
	Syntax Notes:	1 At least one of REF02 or REF03 is required.								
			her 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 REF	04 contains data relating to the value cited in REF02.							
	Comments:									
		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.	Element	<u>Name</u>		<u>ributes</u>					
Μ	REF01	128	Reference Identification Qualifier	Μ	ID 2/3					
			Code qualifying the Reference Identification							
			12 Billing Account							
			EDU Account Number							
Μ	REF02	127	Reference Identification	X	AN 1/30					
			Reference information as defined for a particular Transaction							
			specified by the Reference Identification Qualifier	Bere	<i>n</i> us					
			EDU Account Number							

DFF

Segment:	REF	Reference Identification (Previous EDU Account Num	ıber)					
Position:	120							
Loop:	N1 (Optional						
Level:	Heading							
Usage:	Optional							
Max Use:	12							
Purpose:	To specif	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	ί.					
Semantic Notes:	1 REF	04 contains data relating to the value cited in REF02.						
Comments:								
Notes:		numbers will only contain uppercase letters (A to Z) and D	U	· · · · · · · · · · · · · · · · · · ·				
	-	tuation (spaces, dashes, etc.) must be excluded, and leading	, and trai	lling zeros				
		that are part of the account number must be present.						
		\therefore Required if the account number has changed in the last ϵ						
	all utilities except AEP, which will use Service Delivery Identification Number. (Not							
	used by AEP) REF~45~939581900							
	KEI ~4.57	-555581500						
		Data Element Summary						
Ref.	Data							
Des.	<u>Element</u>	<u>Name</u>	Attr	<u>ributes</u>				
REF01	128	Reference Identification Qualifier	Μ	ID 2/3				
		Code qualifying the Reference Identification						
		45 Old Account Number						
		EDU's Previous Account Number						
REF02	127	Reference Identification	Х	AN 1/30				
		Reference information as defined for a particular Transact	ion Set (or as				
		specified by the 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 specif 1 At le 2 If eit 3 If eit 1 REF HI: Not HU: Not IU: Requ	Dptional fy identifying informed east one of REF02 of ther C04003 or C04 ther C04005 or C04 04 contains data rel Used t Used uired	infication (Billing Type) mation for REF03 is required. 4004 is present, then the other is require 4006 is present, then the other is require lating to the value cited in REF02.	
	MU: Red REF~BL	–		
		Data Ele	ment Summary	
Ref.	Data	Data Eff	incht Summary	
Des.	Element	<u>Name</u>		Attributes
REF01	128	Reference Identi	fication Qualifier	M ID 2/3
		Code qualifying the	he Reference Identification	
		BLT	Billing Type	
			Identifies whether the bill is consoli (LDC) or CRES (ESP), or whether e render their own bill. See REF02 for	each party will
REF02	127	Reference Identi	fication	X AN 1/30
			ation as defined for a particular Transac deference Identification Qualifier Dual Billing Each party bills the customer for its	
		ESP	Energy Supplier Consolidated Billir	•
			The CRES bills the customer.	
		LDC	Utility Consolidated Billing	
			The EDU bills the customer	

М

REF Reference Identification (Party Calculating Charges)

Segment:	REF	Reference Ide	entification (Party Calculating Charge	es)		
Position:	120					
Loop:	N1 (Optional				
Level:	Heading					
Usage:	Optional					
Max Use:	12					
Purpose:		fy identifying inf				
Syntax Notes:			2 or REF03 is required.			
	2 If either C04003 or C04004 is present, then the other is required.					
			C04006 is present, then the other is requi	red.		
Semantic Notes:	1 REF04 contains data relating to the value cited in REF02.					
Comments:						
Notes:	HI: Not Used					
	HU: Not Used					
	IU: Required					
	MU: Rea					
	REF~PC	~LDC				
		Data F	Element Summary			
Ref.	Data	Data L	Sement Summary			
Des.	Element	Name		Attributes		
<u>Des.</u> REF01	<u>128</u>		ntification Qualifier	M ID 2/3		
			g the Reference Identification			
		PC	Production Code			
			Identifies the party that is to calcu	late the charges on the		
			bill			
REF02				T T 1 T T 1 1 1 1 1 1 1 1 1 1		
	127	Reference Iden	ntification	X AN 1/30		
	127	Reference infor	ntification rmation as defined for a particular Trans			
	127	Reference infor specified by the	ntification rmation as defined for a particular Trans e Reference Identification Qualifier	action Set or as		
	127	Reference infor	ntification rmation as defined for a particular Trans	action Set or as		
	127	Reference infor specified by the	ntification rmation as defined for a particular Trans e Reference Identification Qualifier	action Set or as		
	127	Reference infor specified by the DUAL	ntification rmation as defined for a particular Trans e Reference Identification Qualifier Each Party calculates its portion o	action Set or as of the bill each party		

Μ

REF	Reference Identification	(O5 – SDID Number)
	Kelefence luchuncation	$(\mathbf{V}\mathbf{S} - \mathbf{S}\mathbf{D}\mathbf{I}\mathbf{D} \mathbf{I}\mathbf{U}\mathbf{I}\mathbf{U}\mathbf{U}\mathbf{U}\mathbf{U}\mathbf{U}\mathbf{U}$

	Segment:	KEF Reference Identification (Q5 = SDID Number)								
	Position:	120	120							
	Loop:	N1 (N1 Optional							
	Level:	Heading	e							
	Usage:	Optional								
	Max Use:	12								
	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.							
		3 If either 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:	SDID numbers will only contain uppercase letters (A to Z) and Digits (0 - 9). Note that								
		punctuati	on (spaces, dashes, etc.) must be excluded, and leading and tr							
		-	of the SDID number must be present.							
		Required	if customer is in AEP service territory. Maximum use of 1 p	er tran	saction					
		REF~Q5	~9876543245678DCH							
			Data Element Summary							
	Ref.	Data	Duta Element Summary							
	Des.	Element	Name	Attr	ributes					
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 c	or as					
			specified by the Reference Identification Qualifier							
			AEP assigned Service Delivery Identification Number							

Segment:	PTD Product Transfer and Resale Detail (BB=Billed Summary)
Position:	010
Loop:	PTD Mandatory
Level:	Detail
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the start of detail information relating to the transfer/resale of a product and
	provide identifying data
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required.
	2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Not Used
	HU: Not Used
	IU: Required for Duke Energy OH only
	MU: Required for Duke Energy OH only
	For IU/MU: Any Transformer Loss Factor (MEA~~CO) the KH value in the QTY02 of the BB loop should be representative of the Transformer Loss Factor being applied. No adjustments should be made to the KH values in the QTY02 in the SU, BO, PL or PM loops.
	One Monthly Billed Summary PTD loop is required for every account reporting kWh & k1 (if applicable) units of measure. PTD~BB
	Data Element Summary
Ref.	Data Element Summary
Des.	Element Name Attributes
<u>Des.</u> PTD01	ElementNameAttributes521Product Transfer Type CodeM ID 2/2
1 1 1 0 1	S21 From transfer Type Code M ID 2/2

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

Segment:	DTN	Date/Time Reference (Service Period Start)				
Position:	020					
Loop:	PTD	Mandatory				
Level:	Detail	·				
Usage:	Optional					
Max Use:	10					
Purpose:	To specif	Ty pertinent dates and times				
Syntax Notes:	1 At le	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:						
Notes:	HI: Not Used					
	HU: Not					
		quired				
	MU: Red	*				
	DTM~15	50~19990101				
		Data Element Summary				
Ref.	Data					
Des.	Element	Name	Attr	ributes		
DTM 01	374	Date/Time Qualifier	Μ	ID 3/3		
		Code specifying type 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 CCYYMMDD				
		Date expressed as CCYYMMDD				

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 HU: Not Used IU: Required 				
	DTM~15	Jata Element Summary			
Ref.	Data	Data Element Summary			
Des.	Element	Name	Attr	ributes	
DTM01	<u>374</u>	Date/Time Qualifier	M	ID 3/3	
DTM02	373	Code specifying type of date or time, or both date and time 151 Service Period End Ending Read Date 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:	110 QTY Detail Optional 1 To specif 1 At le 2 Only 1 QTY	Optional Ty quantity information ast one of QTY02 or one of QTY02 or Q 704 is used when the	on QTY04 is required. TY04 may be present.			
	HI: Not Used					
	MU: Re	quired				
	QTY~D	~22348~KH				
		Data Elem	ent Summary			
	Data Flomont	Nomo		A ++-	ributos	
					ID 2/2	
2	0.0					
		D1	Billed			
	••••	0	Used when quantity in QTY02 is a "Bill			
QTY02	380	- ·		X	R 1/15	
OTV03	355	-	•	м	ID 2/2	
Q1105	555					
		KH	Kilowatt Hour			
			kWh - Kilowatt Hours			
	Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	Position:110Loop:QTYLevel:DetailUsage:OptionalMax Use:1Purpose:To specificSyntax Notes:1At let2OnlySemantic Notes:Billed kWNotes:Billed kWHI:NotU:RecQTY01DataElementOT3QTY01380	Position:110Loop:QTYOptionalLevel:DetailUsage:OptionalMax Use:1Purpose:To specify quantity informationSyntax Notes:1At least one of QTY02 or QSemantic Notes:1QTY04 is used when theComments:Billed kWhNotes:Billed kWhHI:Not UsedU:RequiredQTY-D1~22348~KHData ElemRef.DataDes.ElementQTY01673Quantity QualifierQTY02380QuantityQTY03355Unit or Basis for MCode specifying the which a measureme	Position: 110 Loop: QTY Optional Level: Detail Usage: Optional Max Use: 1 Purpose: To specify quantity information Syntax Notes: 1 At least one of QTY02 or QTY04 is required. 2 Only one of QTY02 or QTY04 may be present. Semantic Notes: 1 QTY04 is used when the quantity is non-numeric. Comments: Notes: Billed kWh HI: Not Used HU: Not Used HU: Required MU: Required MU: Required MU: Required QTY01 673 Quantity Qualifier Code specifying the type of quantity D1 Billed Used when quantity in QTY02 is a "Bill Vumeric value of quantity Numeric value of quantity QTY03 355 Unit or Basis for Measurement Code Code specifying the units in which a value is being expressed which a measurement has been taken	Position: 110 Loop: QTY Optional Level: Detail Usage: Optional Max Use: 1 Purpose: To specify quantity information Sequence 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: Billed kWh HI: Not Used HU: Not Used HU: Required QTY-D1~22348~KH Mu: Ref. Data Des. Element VITY01 673 Quantity Qualifier Code specifying the type of quantity M D1 Billed Used when quantity in QTY02 is a "Billed" of Used when quantity in QTY02 is a "Billed" of Used when quantity in QTY02 is a "Billed" of Used when quantity in With a measurement has been taken KH Kilowatt Hour Kilowatt Hour	

			7						
	Segment:	OT	Quantity (Billed Demand)						
	Position:	110							
	Loop:	QTY	Optional						
	Level:	Detail							
	Usage:		Optional						
	Max Use:	1							
	Purpose:	To specif	fy quantity information						
	Syntax Notes:		east one of QTY02 or QTY04 is required.						
	·	2 Only one of QTY02 or QTY04 may be present.							
	Semantic Notes:		(04 is used when the quantity is non-numeric.						
	Comments:								
	Notes:	 Billed Demand - Required if account measures Demand (KW). This must be sent even if Billed (derived) demand is equal to measured demand. HI: Not Used HU: Not Used IU: Required as per above note MU: Required as per above note QTY~D1~223~K1 							
	DC		Data Element Summary						
	Ref.	Data	NT						
М	Des.	Element	Name		<u>ributes</u> ID 2/2				
IVI	QTY01	673	Quantity Qualifier Code specifying the type of quantity	IVI	ID 2/2				
			D1 Billed						
			Used when quantity in QTY02 is a "Bil	led" (montity				
М	QTY02	380	Quantity	X	R 1/15				
IVI	Q1102	500	Numeric value of quantity	2	K 1/15				
Μ	QTY03	355	Unit or Basis for Measurement Code	М	ID 2/2				
	21100	000	Code specifying the units in which a value is being expressed						
			which a measurement has been taken	,					
			K1 Kilowatt Demand						

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	110 QTY Detail Optional 1 To specif 1 At le 2 Only	fy quantity information east one of QTY02 or one of QTY02 or Q	Dn		
	Notes:		-	l if account measures Demand (KW).		
		HI: Not Used HU: Not Used				
			quired as per above n	ote		
		MU: Required as per above note				
		QTY~QI	D~223~K1			
			Data Elem	ent Summary		
	Ref.	Data	2 2			
	Des.	<u>Element</u>	<u>Name</u>			<u>ributes</u>
Μ	QTY01	673	Quantity Qualifier		Μ	ID 2/2
			Code specifying the KA	E type of quantity Estimated Quantity Delivered		
			NA	Used when the quantity delivered is est	timate	h
			QD	Quantity Delivered	iiiiiac	
				Quantity is actual		
Μ	QTY02	380	Quantity		Х	R 1/15
	0.000		Numeric value of q			
Μ	QTY03	355		Ieasurement Code e units in which a value is being expressed	M	ID 2/2
			which a measureme	• •	1, OI II	
			K1	Kilowatt Demand		

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

Segment:

beginent.		leter eu ber vices
	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/re	sale of a product and
	provide identifying data	
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required	d.
	2 If either PTD04 or PTD05 is present, then the other is required	d.
Semantic Notes:		
Comments:		
Notes:	HI: Not Used	
	HU: Required for FE only since reporting at account level, otherw	ise not used
	IU: Required for FirstEnergy when BPT04 = X5, otherwise not us	sed.
	MU: Required if there are metered services on the account	
	A summary loop will be provided for each type of consumption (u	
	meters on the account. Usage for all meters on the same tariff rate	will be summed in this
	loop. For MU/IU – Data is obtained from the metering system.	
	PTD~SU	
	Data Element Summary	
Ref.	Data	
Des.	<u>Element</u> <u>Name</u>	Attributes
PTD01	521 Product Transfer Type Code	M ID 2/2

Μ

Product Transfer Type Code Code identifying the type of product transfer SU Summary 521

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	020 PTD Detail Optional 10 To specifi 1 At lef 2 If D' 3 If eit HI: Not HU: Not IU: Requ MU: Requ			
Μ	Ref. <u>Des.</u> DTM01	Data <u>Element</u> 374	Data Element Summary Name Date/Time Qualifier Code specifying type of date or time, or both date and time 150 Service Period Start	<u>Attı</u> M	ributes ID 3/3
М	DTM02	373	Beginning Read Date 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:	020 PTD Detail Optional 10 To specifi 1 At let 2 If D 3 If eit HI: Not HU: Not	Used		
		MU: Red	hired for FirstEnergy when $BPT04 = X5$, otherwise not used. quired if there are metered services on the account (1 - 19990131)		
	Ref.	Data	Data Element Summary		
	Des.	Element	Name	Attr	ributes
Μ	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		
			Ending Read Date		
Μ	DTM02	373	Date	X	DT 8/8
			Date expressed as CCYYMMDD		
			Date expressed as CCYYMMDD		

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

	D 4		Data Elenio	ent Summary	
М	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	<u>Name</u> Quantity Qualifier		<u>Attributes</u> M ID 2/2
	-		Code specifying the	type of quantity	
			KA	Estimated	
				Quantity is estimated	
			QD	Quantity Delivered	
			-	Quantity is actual	
			87	Actual Quantity Received (Net Metering) Used when the net generation quantity recei	ved is actual.
			9H	(FirstEnergy & Duke Energy Ohio Only) Estimated Quantity Received (Net Metering))
				Used when the net generation quantity receiv (FirstEnergy & Duke Energy Ohio Only)	
Μ	QTY02	380	Quantity		X R 1/15
			Numeric value of qu	•	
М	QTY03	C001	Composite Unit of	Measure	0
			of use)	site unit of measure (See Figures Appen	dix for examples
	G00101		-	osite data element, populate C00101	
М	C00101	355	Unit or Basis for M		M ID 2/2
			which a measurement	units in which a value is being expressed nt has been taken Kilowatt Demand	, or manner in
			K1		
			K2	kW - Represents potential power load r predetermined intervals. Sending K1 va Kilovolt Amperes Reactive Demand	
			K2	•	nuliad for
				kVAR - Reactive power that must be su specific types of customer's equipment;	
				kilowatt demand usage meets or exceed	
				parameter. Sending K2 value is optiona	
			K3	Kilovolt Amperes Reactive Hour	
				kVARh - Represents actual electricit	v equivalent to

	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 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) At least one of MEA03 MEA05 MEA06 or MEA08 is required. Syntax Notes: 1 If MEA05 is present, then MEA04 is required. 2 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~~PRQ~12799~K1~~~51

Data Element Summary

D-4-

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	Kel.	Data				
	Des.	Element	Name		Attr	<u>ibutes</u>
Μ	MEA02	738	Measurement Qua	lifier	0	ID 1/3
			Code identifying a s measurement applie PRQ	pecific product or process characteristic t s Product Reportable Quantity	o whi	ich a
Μ	MEA03	739	Measurement Valu	le	Х	R 1/20
			The value of the me	asurement		
			difference in the me	of consumption delivered for service per ter readings (or as measured by the meter uding Power Factor.		
Μ	MEA04	C001	Composite Unit of	Measure	Х	
			To identify a compo of use)	site unit of measure (See Figures Append	dix fo	or examples
Μ	C00101	355	Unit or Basis for M	leasurement Code	Μ	ID 2/2
			Code specifying the	units in which a value is being expressed	, or n	nanner in
			which a measureme	nt has been taken		
			K1	Kilowatt Demand		
			К2	kW - Represents potential power load n predetermined intervals Kilovolt Amperes Reactive Demand	neasu	red at
				kVAR - Reactive power that must be su specific types of customer's equipment; kilowatt demand usage meets or exceeds parameter	billab	ole when
			K3	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	MEA07	935	Measurement Sig	nificance Code	0	ID 2/2
			Code used to bench	mark, qualify or further define a measure	ment v	value
				es (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:	DTN	M Date/Time Reference (Service Period Start)			
Position:	210				
Loop:	QTY				
Level:	Detail				
Usage:	Optional				
Max Use:	10				
Purpose:	1	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	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				
	DIM~IS	50~19990101			
		Data Element Summary			
Ref.	Data				
Des.	<u>Element</u>	Name	Attı	<u>ributes</u>	
DTM01	374	Date/Time Qualifier	Μ	ID 3/3	
		Code specifying type 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 CCYYMMDD			
		Date expressed as CCYYMMDD			

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	 sition: 210 Loop: QTY Level: Detail Usage: Optional x Use: 10 rpose: To specify pertinent dates and times 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. Notes: 			
		Data Element Summary		
Ref.	Data	Nama		
Des. DTM01	Element 374	<u>Name</u> Data/Tima Qualifiar	<u>Attr</u> M	<u>ributes</u> ID 3/3
		Date/Time Qualifier Code specifying type of date or time, or both date and time 151 Service Period End Ending Read Date		
DTM02	373	Date Date expressed as CCYYMMDD Date expressed as CCYYMMDD	X	DT 8/8

Segment:

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

	Detail)
Position:	010
Loop:	PTD Mandatory
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To indicate the start of detail information relating to the transfer/resale of a product and
	provide identifying data
Syntax Notes:	1 If either PTD02 or PTD03 is present, then the other is required.
	2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Not Used
	 HU: Required if there are metered services on the account. First Energy does not use, see PTD*SU loop. AEP will send separate PL loops (same meter number) for net metered customers as delivered/consumption (QTY01 = QD or KA) usage & received/generation (QTY01 = 87 or 9H) usage IU: Not Used MU: Required if there are metered services on the account One PTD loop is required for each meter and/or for each unit of measure on the account.
	PTD~PL
	Data Element Summary
Ref.	Data

Rei. Des.	Element	Name		Attı	ibutes
PTD01	521	Product Transfer Ty	ype Code	Μ	ID 2/2
		Code identifying the	type of product transfer		
		PL	Property Level Movement/Sale		

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Segment: Position: Loop: Level: Usage: Max Use:	020 PTD Detail Optional 10	Date/Time Reference (Service Period Start) Mandatory		
Purpose: Syntax Notes:	1 At le 2 If D	y pertinent dates and times ast one of DTM02 DTM03 or DTM05 is required. IM04 is present, then DTM03 is required. her DTM05 or DTM06 is present, then the other is required.		
Semantic Notes: Comments: Notes:	HI: Not			
10003.	HU: Not IU: Not MU: Red Date (DT	Used	eter E	Exchange
Ref.	Data			
<u>Des.</u> DTM01	Element 374	Name Date/Time Qualifier Code specifying type of date or time, or both date and time	<u>Attr</u> M	<u>ributes</u> ID 3/3
		150 Service Period Start Beginning Read Date		
DTM02	373	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:	020 PTD Detail Optional 10 To specif 1 At le 2 If D'	fy pertinent dates and times 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.		
notes:	HU: Not	t Used		
	Date (D7	Used quired if there are metered services on the account, unless a M TM~514) is substituted for this code. 51~19990131 Data Element Summary	eter Ex	achange
Ref.	Data	Data Element Summary		
<u>Des.</u> DTM01	Element 374	<u>Name</u> Date/Time Qualifier	<u>Attri</u> M	<u>butes</u> ID 3/3
	314	Code specifying type of date or time, or both date and time	IVI	11 3/3
		151 Service Period End		
		Ending Read Date		
DTM02	373	Date	X	DT 8/8
		Date expressed as CCYYMMDD		
		Date expressed as CCYYMMDD		

DTM Date/Time Reference (Meter Exchange Date)

Segment:	DIM Date/Time Reference (Meter Exchange Date)	
Position:	020	
Loop:	PTD Mandatory	
Level:	Detail	
Usage:	Optional	
Max Use:	10	
Purpose:	To specify pertinent dates and times	
Syntax Notes:	1 At least one of DTM02 DTM03 or DTM05 is required.	
	2 If DTM04 is present, then DTM03 is required.	
	3 If either DTM05 or DTM06 is present, then the other is required.	
Semantic Notes:		
Comments:		
Notes:	HI: Not Used	
	HU: Not Used	
	IU: Not Used	
	MU: Required when a meter is exchanged.	
	Date Range in the first PTD is shown as:	
	DTM~150~19990201	
	DTM~514~19990214	
	Date Range in the second PTD is shown as:	
	DTM~514~19990214	
	DTM~151~19990228	
	Data Element Summary	
Ref.	Data	
Des.	<u>Element</u> <u>Name</u>	Attributes
DTM01	374 Date/Time Qualifier	M ID 3/3
	Code specifying type of date or time, or both date and time	
	514 Transferred	

			Code specifying ty	ype 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	CCYYMMDD		
			Date expressed as	CCYYMMDD		

REF Pofe T.J. f Diala) (NT-- **L**

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 20 To specifi 1 At let 2 If eit 3 If eit 1 REF HI: Not HU: Con	Reference Identification (Number of Dials) 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. Used ditional: if Time of Use (TOU) is being sent, the REF~IX mush the different TOUs.	st be	sent to
		IU: Not MU: Rec REF~IX REF~IX			
			Data Element Summary		
	Ref.	Data	Data Element Summary		
м	Des.	Element	Name Defense Liestification Operlification		<u>ibutes</u>
Μ	REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification	Μ	ID 2/3
			IX Item Number		
			Number of dials on the meter displayed	as X	V The
			notation X.Y means that the meter has 2 of the decimal point and Y dials to the r	X dial	s to the left
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	Set o	or as
Μ	REF03	352	Description	Х	AN 1/80
			A free-form description to clarify the related data elements a		
			Meter Type. See Meter Type (REF~MT) on 814 Enrollment "COMBO" is not a valid code for this element.		
С	REF04	C040	Reference Identifier	0	
			To identify one or more reference numbers or identification r	numbe	ers as
			specified by the Reference Qualifier	COAC	02
			Note this is a composite data element. Populate C04001 and Condition: if this is a time of use meter, this must be sent	C040	02.
С	C04001	128	Reference Identification Qualifier	С	ID 2/3
C	C04001	120	Code qualifying the Reference Identification	C	10 2/3
			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	С	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.	med/	calculated
			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: Notes:	030 PTD Detail Optional 20 To specif 1 At le 2 If eit 3 If eit	Mandatory fy identifying inform east one of REF02 or ther C04003 or C040 ther C04005 or C040 604 contains data rela Used		
	IU: Not	Used quired if there are me	etered services on the account	
		Data Elem	ent Summary	
Ref.	Data	Data Elem	ent Summary	
Ref. Des.	Data Element		ent Summary	Attributes
	2444			Attributes M ID 2/3
Des.	Element	<u>Name</u> Reference Identifie		
Des.	Element	<u>Name</u> Reference Identifie	cation Qualifier Reference Identification	
Des.	Element	<u>Name</u> Reference Identifie Code qualifying the	cation Qualifier	
Des.	Element	<u>Name</u> Reference Identifie Code qualifying the	cation Qualifier Reference Identification Tag Meter Role	
<u>Des.</u> REF01	Element 128	Name Reference Identifie Code qualifying the JH Reference Identifie Reference informat	cation Qualifier Reference Identification Tag Meter Role	M ID 2/3 X AN 1/30
<u>Des.</u> REF01	Element 128	Name Reference Identifie Code qualifying the JH Reference Identifie Reference informat specified by the Ref A	cation Qualifier e Reference Identification Tag Meter Role cation ion as defined for a particular Transaction ference Identification Qualifier Additive This consumption contributed to the sum nothing)	M ID 2/3 X AN 1/30 Set or as
<u>Des.</u> REF01	Element 128	Name Reference Identifie Code qualifying the JH Reference Identifie Reference informat specified by the Ref	cation Qualifier Reference Identification Tag Meter Role cation ion as defined for a particular Transaction ference Identification Qualifier Additive This consumption contributed to the sum nothing) Ignore	M ID 2/3 X AN 1/30 Set or as
<u>Des.</u> REF01	Element 128	Name Reference Identifie Code qualifying the JH Reference Identifie Reference informat specified by the Ref A	cation Qualifier e Reference Identification Tag Meter Role cation ion as defined for a particular Transaction ference Identification Qualifier Additive This consumption contributed to the sum nothing)	M ID 2/3 X AN 1/30 Set or as

This consumption must be subtracted from the summarized total

Μ

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 1 To specifi 1 At let 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	Attr M	<u>ibutes</u> ID 2/3
NEFVI	140	Code qualifying the Reference Identification	IVI	11) 4/3
		MG Meter Number		
REF02	127	Reference Identification	x	AN 1/30
KEFV2	127	Reference information as defined for a particular Transaction		111 (1/0 0
		specified by the Reference Identification Qualifier		1 0.5
		Meter Number		

М

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 20 To specif 1 At le 2 If eit 3 If eit	Reference Identification (Meter Type) Mandatory Fy identifying information 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.	
	HU: Rec	uired if there are metered services on the account	
		quired if there are metered services on the account	
	REF~M1	T~KHMON	
Ref.	Data	Data Element Summary	
Des.	Element	Name	Attributes
REF01	128	Reference Identification Qualifier Code qualifying the Reference Identification	M ID 2/3
		MT Meter Ticket Number	
		Meter Type	
REF02	127	Reference Identification	X AN 1/30
		Reference information as defined for a particular Transaction 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 thre 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)	aracter field. The e characters are
		KH Kilowatt Hour (kWh)	
		Metering Interval Reported for Billing Purposes nnn Number of minutes from 001 to 999 ANN Annual BIA Bi-annual BIM Bi-monthly DAY Daily MON Monthly QTR Quarterly TOU Time of Use	
		For Example: KHMON Kilowatt Hours Per Month K1015 Kilowatt Demand per 15 minute interval "COMBO" cannot be used in this segment.	

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

	Segment.		Reference fuchtimention (EO=Eoud Frome)		
	Position:	030			
	Loop:	PTD			
	Level:	Detail			
	Usage:	Optional			
	Max Use:	20			
	Purpose:	To specif	fy identifying information		
Synt	ax Notes:	1 At le	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.		
Co	omments:				
	Notes:		t Used		
			uired for DP&L and Duke Energy Ohio. In the event there		
			nder an account, the PTD~PL/BC will be looped for each rat	e class	s. (AEP & FE
			PTD~FG loop)		
		IU: No			
		MU: No			
		REF~LO	~GS		
			Data Element Summary		
	Ref.	Data	·		
	Des.	Element	Name	<u>X12</u>	2 Attributes
Must Use	REF01	128	Reference Identification Qualifier	Μ	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)

KLT Reference Identification (EDU Rate Code)
030
PTD Mandatory
Detail
Optional
1
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 for DP&L and Duke Energy Ohio. In the event there are multiple rate classes under an account, the PTD~PL/BC will be looped for each rate class. (AEP & FE sends in PTD~FG loop) IU: Not Used MU: Required if there are metered services on the account REF~NH~RES
Data Element Summary Data

	Des.	<u>Element</u>	<u>Name</u>		Att	<u>ributes</u>
Μ	REF01	128	Reference Identif	fication Qualifier	Μ	ID 2/3
			Code qualifying the	ne Reference Identification		
			NH	Rate Card Number		
			EDU Rate Code of	r tariff		
Μ	REF02	127	Reference Identif	fication	Х	AN 1/30
			Reference information specified by the Reference	n Set o	or as	
			EDU Rate Code or	r tariff		

~

REF Refe ТЛ ntificatio (FDU Data Subal `

Se	gment:	REF	Reference Identification (EDU Rate Subclass)					
Р	osition:	030						
	Loop:	PTD	Mandatory					
	Level:	Detail						
	Usage:	Optional						
	ax Use:	1						
	urpose:		y identifying information					
Syntax	x 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	ł.				
Semantio		1 REF	04 contains data relating to the value cited in REF02.					
Con	iments:							
	Notes:	HI: Not						
			iditional - send if there are metered services on the account	and if it is stored in				
		the EDU	•					
		IU: Not		1.0				
		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						
		KEF~PK	~WHA					
			Data Element Summary					
	Ref.	Data						
	Des.	Element	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 Clas further classification of a rate.	s - Used to provide				
[REF02	127	Reference Identification	X AN 1/30				
			Reference information as defined for a particular Transact	tion Set or as				
			specified by the Reference Identification Qualifier					
			EDU Rate Subclass or Revenue Class					

М

Segment:	OTY Quantity
Position:	110
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To specify quantity information
Syntax Notes:	1 At least one of QTY02 or QTY04 is required.
	2 Only one of QTY02 or QTY04 may be present.
Semantic Notes:	1 QTY04 is used when the quantity is non-numeric.
Comments:	
Notes:	If a meter measures total usage, as well as on-peak and off-peak, there will be three QTY loops sent within one PTD01 = PM loop. The MEA segment that follows each QTY will specify which time of use the QTY applies to. HI: Not Used HU: Required if there are metered services on the account. NOTE: AEP will send separate PL loops (same meter number) for net metered customers as delivered / consumption (QTY01 = QD or KA) usage & received/generation (QTY01 = 87 or 9H) usage IU: Not Used MU: Required if there are metered services on the account QTY~QD~22348~KH

	Def	Data	Data Eleme	ent Summary	
М	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	<u>Name</u> Quantity Qualifier		Attributes M ID 2/2
			Code specifying the	type of quantity	
			KA	Estimated	
				Quantity is estimated	
			QD	Quantity Delivered	
				Quantity is actual	
			87	Actual Quantity Received (Net Metering) Used when the net generation quantity receiv (AEP Ohio, Duke Energy Ohio & First Ener	
			9Н	Estimated Quantity Received (Net Metering) Used when the net generation quantity receiv (AEP Ohio, Duke Energy Ohio & First Ener	ved is estimated.
Μ	QTY02	380	Quantity		X R 1/15
			Numeric value of qu	iantity	
Μ	QTY03	C001	Composite Unit of	Measure	0
			of use)	site unit of measure (See Figures Append	dix for examples
			-	osite data element, populate C00101	
Μ	C00101	355	Unit or Basis for M		M ID 2/2
			Code specifying the which a measurement K1	units in which a value is being expressed nt has been taken Kilowatt Demand	l, or manner in
			К2	kW - Represents potential power load n predetermined intervals Kilovolt Amperes Reactive Demand	neasured at
			W2	kVAR - Reactive power that must be su specific types of customer's equipment; kilowatt demand usage meets or exceeds parameter	billable when
			K3	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

Segment:	MEA Measurements (Readings & Time of Use)
Position:	160
Loop:	QTY Optional
Level:	Detail
Usage:	Optional
Max Use:	40
Purpose:	To specify physical measurements or counts, including dimensions, tolerances, variances, and weights (See Figures Appendix for example of use of C001)
Syntax Notes:	1 At least one of MEA03 MEA05 MEA06 or MEA08 is required.
	2 If MEA05 is present, then MEA04 is required.
	3 If MEA06 is present, then MEA04 is required.
	4 If MEA07 is present, then at least one of MEA03 MEA05 or MEA06 is required.
	5 Only one of MEA08 or MEA03 may be present.
Semantic Notes:	1 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.
Comments:	1 When citing dimensional tolerances, any measurement requiring a sign (+ or -), or any measurement where a positive (+) value cannot be assumed, use MEA05 as the negative (-) value and MEA06 as the positive (+) value.
Notes:	The MEA segment is sent for each QTY loop. The MEA will indicate the "time of use"
	that applies to the QTY. If meter readings are included in the MEA, they will indicate
	the "time of use" that the meter readings apply to.
	HI: Not Used
	HU: Not Used
	IU: Not Used
	MU: Required if there are metered services on the account
	MEA~AA~PRQ~772~KH~10500~11272~42
	MEA~AF~PRQ~12799~K1~~12799~51

			Data Elei	nent Summary	
	Ref.	Data			
	Des.	<u>Element</u>	<u>Name</u>		Attributes
Μ	MEA01	737	Measurement Re	ference ID Code	O ID 2/2
			Code identifying the	he 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	6 6 6	O ID 1/3
			Code identifying a measurement appl PRQ	specific product or process characteristic ies Product Reportable Quantity	to which a
Μ	MEA03	739	Measurement Va	lue	X R 1/20
			The value of the m	neasurement	
			difference in the m	y of consumption delivered for service peneter readings (or as measured by the meter cluding Power Factor.	
Μ	MEA04	C001	Composite Unit o	f Measure	Х
			To identify a compof use)	posite unit of measure (See Figures Appe	ndix for examples
Μ	C00101	355	Unit or Basis for	Measurement Code	M ID 2/2
				e units in which a value is being expresse ent has been taken Kilowatt Demand	ed, or manner in

				kW - Represents potential power load measured 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 exceeds parameter	billal	ble when		
			K3	Kilovolt Amperes Reactive Hour				
					ivalent to exceeds			
			K4	Kilovolt Amperes				
				kVA - Kilovolt Amperes				
			KH	Kilowatt Hour				
				kWh - Kilowatt Hour				
С	MEA05	740	Range Minimum		Х	R 1/20		
				ng 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	•			
				single reading (demand).				
С	MEA07	935	Measurement Sign		0	ID 2/2		
				mark, qualify or further define a measure				
			measured by the measurements.	es (as identified by UIG) can be used to ide eter, but should not be used to identify tari	•	-		
				of use meter, this must be sent				
			41	Off Peak				
			42	On Peak				
			43	Intermediate Peak				
			51	Shoulder				
			51	Totalizer				
				Total				

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

			Data Elem	ent Summary		
	Ref.	Data				
	Des.	Element	<u>Name</u>		Attributes	
Μ	MEA02	738	Measurement Qua	lifier	O ID 1/3	
			Code identifying a s measurement applie	specific product or process characteristic t	o which a	
			MU	Multiplier		
				Meter Multiplier		
				(Ending Reading - Beginning Reading) Multiplier = Billed Usage	* Meter	
Μ	MEA03	739	Measurement Valu	ie	X R 1/20	-
			The value of the me	asurement		
			Meter Multiplier			

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	 160 QTY Detail Optional 40 To specifiand weige 1 At let 2 If M 3 If M 4 If M 5 Only 1 MEA 1 MEA 1 When the the second sec	Used Used quired if there are metered services on the account and it is ava	06 is required. A06. sign (+ or -), or se MEA05 as the
		Data Element Summary	
Ref. <u>Des.</u> M MEA02	Data Element	Name Maggarger Ougliffian	Attributes
M MEA02	738	Measurement QualifierCode identifying a specific product or process characteristicmeasurement appliesZAPower Factor	O ID 1/3 to which a
		Relationship between watts and volt - a necessary to supply electric load	mperes
M MEA03	739	Measurement Value The value of the measurement Power Factor	X R 1/20

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:	 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:	 MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.
Comments:	 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
5.4	Data Element Summary

	Ref.	Data				
	Des.	Element	<u>Name</u>		Att	<u>ributes</u>
Μ	MEA02	738	Measurement Qua	lifier	0	ID 1/3
			Code identifying a s measurement applie	specific product or process characteristic s Core Loss	to wh	ich a
			0			
				Transformer Loss Factor		
Μ	MEA03	739	Measurement Valu	ie	Х	R 1/20
			The value of the me	asurement		
			Transformer Loss F	actor		

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	 210 QTY Detail Optional 10 To specified To specified 1 At left 2 If D' 3 If eit HI: Not HU: Rec IU: Not MU: Not 	fy pertinent dates and east one of DTM02 D TM04 is present, then ther DTM05 or DTM Used Juired if there are met Used	times TM03 or DTM05 is required.		
	Ref.	Data	Data Elem	ent Summary		
	Des.	Element	Name		Attr	ibutes
Μ	DTM01	374	Date/Time Qualifie	er	M	ID 3/3
			Code specifying typ	e of date or time, or both date and time		
			150	Service Period Start		
				Beginning Read Date		
Μ	DTM02	373	Date		Х	DT 8/8
			Date expressed as C	CYYMMDD		
			Date expressed as C	CYYMMDD		

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	 210 QTY Optional 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. 				
INOLES:	 HI: Not Used HU: Required if there are metered services on the account IU: Not Used MU: Not Used DTM~151~19990322 				
		Data Element Summary			
Ref.	Data				
Des.	Element	Name		<u>ributes</u>	
M 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			
		Ending Read Date			
M DTM02	373	Date	Х	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 usedHU: Not Used
	IU: Required, First Energy does not use when BPT04 = X5. Note for IU: If EDU is reporting separate on/off peak PTD~BO loops, only one PTD~PM loop should be sent. MU: Not Used
	One PTD loop is required for each meter or for each unit of measure on the account. PTD~BO
	Data Element Summary

		Data Elem	ent Summary			
Ref. <u>Des.</u>	Data <u>Element</u>	Name		<u>Attri</u>	ibutes	
PTD01	521	Product Transfer	Гуре Code	Μ	ID 2/2	
		Code identifying the	e type of product transfer			
		BO	Designated Items			
			Provides Summary information for each or unit of measure.	1 interv	val meter	

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	020 PTD Detail Optional 10 To specifi 1 At let 2 If D' 3 If eit HI: Not HU: Not IU: Requ MU: No	Optional Events one of DTM02 D' TM04 is present, then ther DTM05 or DTM0 Used Used used used	TM03 or DTM05 is required.		
		-	Data Eleme	ent Summary		
	Ref.	Data	NT			·1
М	<u>Des.</u> DTM01	Element 374	<u>Name</u> Date/Time Qualifie	۲ .	Attr M	<u>ributes</u> ID 3/3
141	DIMOI	5/4		e of date or time, or both date and time	141	10 5/5
			150	Service Period Start		
			~ *	Beginning Read Date		
Μ	DTM02	373	Date		Х	DT 8/8
			Date expressed as C	CYYMMDD		
			Date expressed CCY	YMMDD		

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	 DTM Date/Time Reference (Service Period End) 020 PTD Optional 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: Not Used IU: Required MU: Not Used DTM~151~19990131 				
			Data Eleme	nt Summary		
	Ref.	Data	NT		• • •	••
М	<u>Des.</u> DTM01	Element 374	<u>Name</u> Date/Time Qualifier	•	Attr M	<u>ributes</u> ID 3/3
TAT	D1101	3/4	•	of date or time, or both date and time	TAT	11 3/3
			151	Service Period End		
			1.51	Beginning Read Date		
М	DTM02	373	Date	Beginning Kead Date	X	DT 8/8
TAT	D11v102	515	Date expressed as CO	TYYMMDD	Л	DI 0/0
			Date expressed as CO			
			Date expressed as CC			

REF Pofe T.J. ntificati . f Diala)

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 20 To specif 1 At le 2 If eit 3 If eit	Optional y identifying informations one of REF02 or her C04003 or C040 her C04005 or C040 04 contains data relations			
		IU: Requ MU: Not	t Used			
			-6.0~KHMON -4.2~K1MON~TU^4	43		
			Data Elem	ent Summary		
	Ref.	Data Flomont			A ++-	 hutog
Μ	<u>Des.</u> REF01	Element 128	<u>Name</u> Reference Identifie	cation Qualifier	<u>Atti</u> M	ributes ID 2/3
			Code qualifying the	e Reference Identification		
			IX	Item Number		
				Number of dials on the meter displayed notation X.Y means that the meter has X of the decimal point and Y dials to the r	X dial	
Μ	REF02	127	Reference Identifie		X	AN 1/30
				ion as defined for a particular Transaction ference Identification Qualifier	Set o	or as
Μ	REF03	352	Description		Х	AN 1/80
			-	tion to clarify the related data elements an	nd the	eir content
				leter Type (REF~MT) on 814 Enrollment	for v	alid codes.
С	REF04	C040	"COMBO" is not a Reference Identifie	valid code for this element.	0	
C	KEF 04	C040		nore reference numbers or identification r	•	ers as
			specified by the Ref	ference Qualifier		
			-	osite data element. Populate C04001 and	C040	002.
C	C04001	130		a time of use meter, this must be sent	C	ID 1/2
С	C04001	128	Reference Identifie	Reference Identification	С	ID 2/3
				a time of use meter, this must be sent		
			TU	Trial Location Code		
				Time of Use		
С	C04002	127	Reference Identifie		С	AN 1/30
				ion as defined for a particular Transaction ference Identification Qualifier	Set o	or as
				a time of use meter, this must be sent		
			41	Off Peak		
			42	On Peak		
			43	Intermediate Peak		
			C 1	Shoulder		
			51	Totalizer Total		
011	00.67 (00.4010) 1/2 5 2			Total		2 2017

REF	Reference Identification (Meter Role)
KEF	Reference Identification (Meter Role)

Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 20 To specif 1 At le 2 If eit 3 If eit	Optional fy identifying informent east one of REF02 on ther C04003 or C040 ther C04005 or C040 04 contains data relation Used Used irred t Used	fication (Meter Role) nation r REF03 is required. 204 is present, then the other is required 206 is present, then the other is required ating to the value cited in REF02.	
		Data Elen	nent Summary	
Ref.	Data			
Des.	Element	Name Defense Llevie		Attributes
REF01	128	Reference Identifi	-	M ID 2/3
			e Reference Identification	
		JH	Tag	
			Meter Role	
REF02	127	Reference Identifi		X AN 1/30
			tion as defined for a particular Transact	tion Set or as
		A	Additive	
			This consumption contributed to the	summarized total
		т	(do nothing)	
		Ι	Ignore	(
			This consumption did not contribute total (do nothing)	to the summarized
		S	Subtractive	
		~	This consumption must be subtracted	d from the
			summarized total	

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
	Data Element Summary

			Data Element Summary	
Μ	Ref. <u>Des.</u> REF01	Data <u>Element</u> 128	<u>Name</u> Reference Identification Qualifier	Attributes M ID 2/3
			Code qualifying the Reference IdentificationMGMeter Number	
Μ	REF02	127	Reference Identification	X AN 1/30
			Reference information as defined for a particula specified by the Reference Identification Qualif Meter Number	

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	030 PTD Detail Optional 20 To specifi 1 At le 2 If eit 3 If eit 1 REF HI: Not HU: Not IU: Requ MU: No	Used nired		
			Data Flement Summary		
	Ref.	Data	Data Element Summary		
М	<u>Des.</u> REF01	Element 128	<u>Name</u> Reference Identification Qualifier	<u>Attributes</u> M ID 2/3	
171	KLI VI	120	Code qualifying the Reference Identification	11 10 2/5	
			MT Meter Ticket Number		_
Μ	REF02	127	Meter Type Reference Identification	X AN 1/3	0
TAT	NLTV2	141	Reference information as defined for a particular Transaction		J
			 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 combination of the following values: Type of Consumption K1 Kilowatt Demand (kW) K2 Kilovolt Amperes Reactive Demand (kVAR) K3 Kilovolt Amperes Reactive Hour (kVARh) K4 Kilovolt Amperes (kVA) KH Kilowatt Hour (kWh) Metering Interval Reported for Billing Purposes nnn Number of minutes from 001 to 999 ANN Annual BIA Bi-annual BIM Bi-monthly DAY Daily MON Monthly QTR Quarterly TOU Time of Use For Example: KHMON Kilowatt Hours Per Month K1015 Kilowatt Demand per 15 minute interval "COMBO" cannot be used in this segment. 	e characters are	e

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments: Notes:	110 QTY Detail Optional 1 To specifi 1 At le 2 Only 1 QTY HI: Not HU: Not IU: Requ MU: No	fy quantity information east one of QTY02 or 7 one of QTY02 or Q 204 is used when the of Used t Used uired		
				ent Summary	
Μ	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	Name Quantity Qualifier Code specifying the KA	type of quantity Estimated	<u>Attributes</u> M ID 2/2
			QD	Quantity is estimated Quantity Delivered	
			<u>x</u>	Quantity benvered Quantity is actual	
			87 9H	Actual Quantity Received (Net Metering) Used when the net generation quantity receiv (Duke Energy Ohio Only) Estimated Quantity Received (Net Metering) Used when the net generation quantity received	
				(Duke Energy Ohio Only)	
Μ	QTY02	380	Quantity		X R 1/15
Μ	QTY03	C001	Numeric value of que Composite Unit of	-	0
	L		To identify a compo of use)	site unit of measure (See Figures Append	dix for examples
ŊЛ	C00101	255	1	osite data element, populate C00101	M ID 2/2
Μ	C00101	355	which a measurement K1	units in which a value is being expressed nt has been taken Kilowatt Demand kW - Represents potential power load n predetermined intervals	
			K2	Kilovolt Amperes Reactive Demand kVAR - Reactive power that must be sup specific types of customer's equipment; kilowatt demand usage meets or exceeds parameter	billable when
			K3	Kilovolt Amperes Reactive Hour kVARh - Represents actual electricit kilowatt hours; billable when usage mee defined parameters	-
			K4	Kilovolt Amperes	
			VП	kVA - Kilovolt Amperes	
			КН	Kilowatt Hour kWh - Kilowatt Hour	

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	 160 QTY Detail Optional 40 To specification and weige 1 At lefter Arrows 2 If M 3 If M 4 If M 5 Only 1 MEA 1 When any mega HI: Not HU: Not IU: Control MU: Not 	Ty physical measurem hts (See Figures App east one of MEA03 M EA05 is present, ther EA06 is present, ther EA07 is present, ther one of MEA08 or M A04 defines the unit of n citing dimensional measurement where a tive (-) value and ME Used Used itional: Send if inter	nents or counts, including dimensions, tol pendix for example of use of C001) IEA05 MEA06 or MEA08 is required. n MEA04 is required. n MEA04 is required. n at least one of MEA03 MEA05 or MEA IEA03 may be present. of measure for MEA03, MEA05, and ME tolerances, any measurement requiring a a positive (+) value cannot be assumed, u EA06 as the positive (+) value.	006 is required. A06. sign (+ or -), or se MEA05 as the
			Data Elem	ent Summary	
М	Ref. <u>Des.</u> MEA01	Data <u>Element</u> 737	<u>Name</u> Measurement Refe	erence ID Code	Attributes O ID 2/2
			Code identifying the	e broad category to which a measurement	t applies
			AA	Meter reading-beginning actual/ending	actual
			AE	Meter reading-beginning actual/ending	estimated
			AF	Actual Total	
				Recommended for demand because der only 1 reading. This code will also be a Energy Ohio if previous reading is not for units of measure other than demand	used by Duke being supplied
			EA	Meter reading-beginning estimated/end	-
			EE	Meter reading-beginning estimated/end	ing estimated
Μ	MEA04	C001	Composite Unit of	Measure	X
			To identify a compo	osite unit of measure (See Figures Apper	ndix for examples
Μ	C00101	355	of use) Unit or Basis for N	leasurement Code	M ID 2/2
			Code specifying the	e units in which a value is being expressed	d, or manner in
			which a measureme	ent has been taken	
			K1	Kilowatt Demand	
				kW - Represents potential power load	measured at
			VO	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 parameter	
			K3	Kilovolt Amperes Reactive Hour	
				kVARh - Represents actual electrici kilowatt hours; billable when usage me defined parameters	
			K4	Kilovolt Amperes	
				-	

			kVA - Kilovolt Amperes				
			KH	Kilowatt Hour			
				kWh - Kilowatt Hour			
С	MEA05	740	Range Minimum		Х	R 1/20	
			The value specifyin	value specifying the minimum of the measurement range			
			Beginning Reading	ning Reading if applicable			
			Condition: Require	d unless MEA01 = "AF"			
Μ	MEA06	741	Range Maximum		Х	R 1/20	
			The value specifyin	g the maximum of the measurement range			
			Ending reading or s	ingle reading			

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

			Data Eleme	ent Summary	
М	Ref. <u>Des.</u> MEA02	Data <u>Element</u> 738	<u>Name</u> Measurement Qual	ifier	Attributes O ID 1/3
		100	-	pecific product or process characteristic	
			MU	Multiplier	
				Meter Multiplier	
				(Ending Reading - Beginning Reading)	* Meter
				Multiplier = Billed Usage	
Μ	MEA03	739	Measurement Valu	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 specification and weige 1 At lefter the second se	Used hired if available t Used	06 is required. A06. sign (+ or -), or
			Data Element Summary	
	Ref. Des.	Data Element	Name	Attributes
Μ	MEA02	738	Measurement Qualifier	O ID 1/3
			Code identifying a specific product or process characteristic to measurement applies	o which a
			ZA Power Factor	
			Relationship between watts and volt - ar necessary to supply electric load	nperes
Μ	MEA03	739	Measurement Value	X R 1/20
			The value of the measurement	
			Power Factor	

MFA M te (T -f • .

Segment:	ME	A Measurements	(Transformer Loss Factor)		
Position:	160				
Loop:	QTY	Optional			
Level:	Detail	1			
Usage:	Optional				
Max Use:	40				
Purpose:	To specif	y physical measure	ments or counts, including dimensions, tol	eranc	es, variances,
			opendix for example of use of C001)		
Syntax Notes:			MEA05 MEA06 or MEA08 is required.		
			en MEA04 is required.		
			en MEA04 is required.		
			en at least one of MEA03 MEA05 or MEA	.06 is	required.
			MEA03 may be present.		
Semantic Notes:			of measure for MEA03, MEA05, and ME		
Comments:			l tolerances, any measurement requiring a		
	any measurement where a positive (+) value cannot be assumed, use MEA05 as the				
NI-4	-		EA06 as the positive (+) value.		
Notes:	HI: Not HU: Not				
			former loss is not measured by the meter		
	MU: No		former loss is not measured by the meter		
	MEA~~(
	MILA~~(20~1.02			
		Data Elen	nent Summary		
Ref.	Data				
Des.	Element	<u>Name</u>		Att	ributes
MEA02	738	Measurement Qu	alifier	0	ID 1/3
		Code identifying a	specific product or process characteristic	to wh	ich a
		measurement appli			
		CO	Core Loss		
			Transformer Loss Factor		
MEA03	739	Measurement Va	lue	Х	R 1/20
		The value of the measurement			
			leasurement		

М

Segment:	\mathbf{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:	 If either PTD02 or PTD03 is present, then the other is required. If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	 HI: Required HU: Not Used IU: Required if the CRES requests detail interval information on the Enrollment or Change. One PTD loop is required for each meter and/or each unit of measure on the account. Note for IU: If EDU is reporting separate on/off peak PTD~BO loops, only one PTD~PM loop should be sent. PTD~PM loop is optional when BPT01 = 01 (867IU Cancel) MU: Not Used. PTD~PM

			Data Li	iement Summary	
М	Ref. <u>Des.</u> PTD01	Data <u>Element</u> 521	<u>Name</u> Product Transf	fer Type Code	<u>Attributes</u> M ID 2/2
			Code identifying	g the type of product transfer	
			PM	Physical Meter Information	
				Provides detail information for each in unit of measure.	nterval meter or

REF	Reference Identification (Meter Number)	
КСГ	Reference Identification (Meter Number	r)

Segment:	REF	Reference Identification (Meter Number)			
Position:	030				
Loop:	PTD Mandatory				
Level:	Detail				
Usage:	Optional				
Max Use:	1				
Purpose:	To specify identifying information				
Syntax Notes:	1 At least one of REF02 or REF03 is required.				
·	2 If either C04003 or C04004 is present, then the other is required.				
	3 If either C04005 or C04006 is present, then the other is required.				
Semantic Notes:	1 REF04 contains data relating to the value cited in REF02.				
Comments:					
Notes:	HI: Required				
	HU: Not Used				
	IU: Not Used				
	MU: Not Used				
	REF~MG~2222277S				
Data Element Summary					
Ref.	Data	·			
Des.	Element	Name	Attr	ributes	
REF01	128	Reference Identification Qualifier	Μ	ID 2/3	
		Code qualifying the Reference Identification			
		MG Meter Number			
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			
		Meter Number			

М

	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	704 is used when the output it used utred if CRES request t Used		Ilment or Change
			Data Elema	ent Summary	
Μ	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	Name Quantity Qualifier Code specifying the		Attributes M ID 2/2
			KA	Estimated	
				Quantity is estimated	
			QD	Quantity Delivered	
				Quantity is actual	
			87	Actual Quantity Received (Net Meterin Used when the net generation quantity i	
			9Н	actual. FirstEnergy & Duke Energy Ohi Estimated Quantity Received (Net Met Used when the net generation quantity r estimated. (FirstEnergy & Duke Energy	o Only) ering) received is
Μ	QTY02	380	Quantity	estimated. (TristEnergy & Duke Energ	X R 1/15
			Numeric value of qu	antity	
Μ	QTY03	C001	Composite Unit of		0
				site unit of measure (See Appendix for e	examples of use)
ħ.#	C00101	255	_	osite data element, populate C00101	M ID 2/2
Μ	C00101	355	Unit or Basis for M Code specifying the	units in which a value is being expressed	M ID 2/2
			which a measurement		., 51 11111101 111
			K1	Kilowatt Demand	
			K2	kW - Represents potential power load n predetermined intervals Kilovolt Amperes Reactive Demand	neasured at
				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 med defined parameters	
			K4	Kilovolt Amperes	
			VII	kVA - Kilovolt Amperes	
			КН	Kilowatt Hour kWh - Kilowatt Hour	
				K WII - KIIOWAU HOUI	

	Segment: Position: Loop: Level: Usage: Max Use: Purpose: Syntax Notes: Semantic Notes: Comments:	 DTM Date/Time Reference (Interval End Time) 210 QTY Optional 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. 				
	Notes:	Change MU: No DTM~19 DTM~19	t Used uired if the CRES req	ES	rolln	nent or
	Ref.	Data	Data Eleme	ent Summary		
	Des.	Element	Name			<u>ibutes</u>
Μ	DTM01	374	Date/Time Qualifie	er of date or time, or both date and time	Μ	ID 3/3
			194	Period End		
				The date/time of the end of the interval		
Μ	DTM02	373	Date		Х	DT 8/8
			Date expressed as C	CYYMMDD		
Μ	DTM03	337	Time		X	TM 4/8
			HHMMSSD, or HH 59), S = integer seco are expressed as foll HHMM, where H = For this transaction, to indicate midnight	4-hour clock time as follows: HHMM, or MMSSDD, where H = hours (00-23), M = onds (00-59) and DD = decimal seconds; d ows: D = tenths (0-9) and DD = hundredt Hours and M = Minutes in Eastern Prevai since X12 does not allow 2400 for time, 2 . For example, midnight between October e reflected as 2359 of October 15th.	= mir lecin hs (0 iling 2359	nutes (00- nal seconds 0-99) Time (ET). will be used
Μ	DTM04	623	Time Code		0	ID 2/2
			Organization standa in hours in relation t	e time. In accordance with International St rd 8601, time can be specified by a + or - to Universal Time Coordinate (UTC) time. + and - are substituted by P and M in the of Eastern Daylight Time (Duke Energy OF only) Eastern Standard Time (Duke Energy OF Only) Eastern Time	and a ; sinc codes H anc	an indication ce + is a s that follow l FirstEnergy

PTD Product Transfer and Resale Detail (Unmetered Services)

Segment:	PTD Product Transfer and Resale Detail (Unmetered Services)
Position:	010
Loop:	PTD Mandatory
Level:	Detail
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data
Syntax Notes:	 If either PTD02 or PTD03 is present, then the other is required. If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes: Comments:	
Notes:	HI: Not Used
	HU: Conditional – at least one of the PTD~BC loop must be sent if there are unmetered services on the account IU: Not Used
	MU: Conditional – at least one of the PTD~BC loop must be sent if there are unmetered services on the account
	PTD~BC PTD~BD
	עטייעד

Data Element Summary

М	Ref. <u>Des.</u> PTD01	Data <u>Element</u> 521	<u>Name</u> Product Transfer 1	Гуре Code	<u>Attr</u> M	<u>ibutes</u> ID 2/2
			Code identifying the	e type of product transfer		
			BC	Issue - Other Agency		
				Unmetered Services Summary		

Segment:	DTN	Date/Time Reference (Service Period Start)				
Position:	020	020				
Loop:	PTD	Mandatory				
Level:	Detail					
Usage:	Optional					
Max Use:	10 T	S 1 1				
Purpose:	1	y pertinent dates and times				
Syntax Notes:		east one of DTM02 DTM03 or DTM05 is required.				
		ΓM04 is present, then DTM03 is required. her DTM05 or DTM06 is present, then the other is required.				
Semantic Notes:	5 11 01	the D11005 of D11000 is present, then the other is required.				
Comments:						
Notes:	HI: Not	Used				
11000050	HU: Rec					
	IU: Not Used					
	MU: Required if there are unmetered service on the account					
	DTM~150~19990101					
Ref.	Data	Data Element Summary				
Des.	Element	Name	Attı	<u>ributes</u>		
DTM01	374	Date/Time Qualifier		ID 3/3		
		Code specifying type of date or time, or both date and time				
		150 Service Period Start				
DTM02	373	Date	Х	DT 8/8		
		Date expressed as CCYYMMDD				
		Date expressed as CCYYMMDD				

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Segment:	DTN	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.			
		ΓM04 is present, then DTM03 is required.			
	3 If eit	ther DTM05 or DTM06 is present, then the other is required.			
Semantic Notes:					
Comments:		** 1			
Notes:	HI: Not				
	HU: Rec	▲			
	IU: Not Used				
	MU: Required if there are unmetered service on the account				
	DTM~151~19990131				
		Data Element Summary			
Ref.	Data	•			
Des.	Element	Name	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	Х	DT 8/8	
		Date expressed as CCYYMMDD			
		Date expressed as CCYYMMDD			
		*			

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	Segment:	REF Reference Identification (LO=Load Profile)				
	Position:	030				
	Loop:	PTD				
	Level:	Detail				
	Usage:	Optional				
]	Max Use:	20				
	Purpose:	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.			
	tic Notes:		ther C04005 or C04006 is present, then the other is required. 04 contains data relating to the value cited in REF02.			
	Notes:	HI: No	t Used			
		classes u	t Used		-	
	Ref.	Data	Data Element Summary			
	Des.	Element	Name	V1 2	2 Attributes	
Must Use	<u>Des.</u> REF01	<u>128</u>	Reference Identification Qualifier	$\frac{M12}{M}$	ID 2/3	
Must Osc	KL/FUI	120	Code qualifying the Reference Identification	141	10 2/3	
			LO Load Planning Number Load profile			
Must Use	REF02	127	Reference Identification	x	AN 1/30	
Must Use	NLTV2	147	Reference information as defined for a particular Transaction 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:		fy identifying information		
	Syntax 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.		
	Semantic Notes:	1 REF	04 contains data relating to the value cited in REF02.		
	Comments:				
	Notes:	HI: Not			
			uired for DP&L and Duke Energy Ohio. In the event there ar		
			nder an account, the PTD~PL/BC will be looped for each rate	class.	(AEP & FE
		sends in l	PTD~FG loop)		
			** 1		
		IU: Not			
			quired if there are metered services on the account		
		REF~NH	I~KES		
			Data Element Summary		
	Ref.	Data		•	
	Des.	<u>Element</u>	<u>Name</u>		<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 c	or as
			specified by the Reference Identification Qualifier		
			EDU Rate Code or tariff		

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Segme	ent: RE	F Reference Identification (EDU Rate Subclass)					
Positi							
Lo	op: PTD	PTD Mandatory					
Le	vel: Detail						
Usa	age: Option	al					
Max U	J se: 1						
Purpo		cify identifying information					
Syntax No		least one of REF02 or REF03 is required.					
		either C04003 or C04004 is present, then the other is req					
		either C04005 or C04006 is present, then the other is req	luired.				
Semantic No		EF04 contains data relating to the value cited in REF02.					
Comme							
No		ot Used					
		HU: Conditional – send if there are metered services on the account and if it is stored in					
		the EDU system					
		IU: Not Used					
		MU: Conditional – send if there are metered services on the account and if it is stored in					
		the EDU system					
		REF~PR~HEAT REF~PR~WHA					
	KEF~I	K~WIIA					
		Data Element Summary					
Re	f. Data						
De			<u>Attributes</u>				
REI	F01 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.					
REI	F02 127	Reference Identification	X AN 1/30				
		Reference information as defined for a particular Tra	insaction Set or as				
		specified by the Reference Identification Qualifier					
		EDU Rate Subclass or Revenue Class					

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Segment:	REF Reference Identification (Product Type)					
Position:	030	030				
Loop:	PTD Mandatory					
Level:	Detail					
Usage:	Optional					
Max Use:	20					
Purpose:	To specify identifying information					
Syntax Notes:	1 At least one of REF02 or REF03 is required.					
	2 If either C04003 or C04004 is present, then the other is required.					
	3 If either C04005 or C04006 is present, then the other is required.					
Semantic Notes:	1 REF04 contains data relating to the value cited in REF02.					
Comments:						
Notes:	HI: Not Used					
	HU: Required					
	IU: Not Used					
	MU: Required if there are unmetered service on the account					
	REF~PRT~LIGHT					
	Data Element Summary					
Ref.	Data					
Des.	<u>Element</u> Name	Attributes				
REF01	128 Reference Identification Qualifier	M ID 2/3				
	Code qualifying the Reference Identification					
	PRT Product Type					
	EDU Defined Unmetered Service Type	e				

Reference information as defined for a particular Transaction Set or as

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

specified by the Reference Identification Qualifier

Reference Identification

defined on each EDU Web Site.

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REF02

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X AN 1/30

	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: Rec IU: Not MU: Rec	Ty quantity information east one of QTY02 or y one of QTY02 or Q 204 is used when the Used puired Used			
			Data Elem	ent Summary		
Μ	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	<u>Name</u> Quantity Qualifier Code specifying the QD		Attributes M ID 2/2	
М	QTY02	380	Quantity	Quantity is actual Whether unmetered services are estimat or actual, they will be coded as actual.	ted, calculated, X R 1/15	
			Numeric value of que	uantity consumption quantity per device		
Μ	QTY03	C001	Composite Unit of To identify a compo of use)	Measure osite unit of measure (See Figures Appen	O dix for examples	
М	C00101	355	Note this is a compo Unit or Basis for N	osite data element, populate C00101	M ID 2/2	
1.61	00101	333		e units in which a value is being expressed ent has been taken Each Ea 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:	1 If either PTD02 or PTD03 is present, then the other is required.
	2 If either PTD04 or PTD05 is present, then the other is required.
Semantic Notes:	
Comments:	
Notes:	HI: Required for PJM Customers; otherwise not used
	HU: Required for PJM Customers; otherwise not used
	IU: Not Used
	MU: Not Used
	This PTD Loop will be used to provide Scheduling Determinants, such as the Capacity
	Contribution (a.k.a. Load Responsibility) and Transmission Contribution for PJM customers.
Examples:	PTD*FG
Liximpres.	

Data Element Summary

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

	Segment:	REF	Reference Identification (BF=LDC Bill Cycle)				
	Position:	030	030				
	Loop:	PTD					
	Level:	Detail					
	Usage:	Optional					
	Max Use:	20					
	Purpose:	To specif	fy identifying information				
Synt	tax Notes:	1 At le	east one of REF02 or REF03 is required.				
5011141	tic Notes: omments:	 If either C04003 or C04004 is present, then the other is required. If either C04005 or C04006 is present, then the other is required. REF04 contains data relating to the value cited in REF02. 					
	Notes:	HI: Required HU: Required IU: Not Used MU: Not Used REF~BF~15					
	D 4	D (Data Element Summary				
	Ref.	Data	N	• • •	•1 4		
Must Use	<u>Des.</u> REF01	Element 128	<u>Name</u> Reference Identification Qualifier	<u>Atti</u> M	<u>ributes</u> ID 2/3		
wiust Use	KEFUI	120	Code qualifying the Reference Identification	IVI	ID 2/5		
			BF LDC Bill Cycle				
Must Use	REF02	127	Reference Identification Reference information as defined for a particular Transaction specified by the Reference Identification Qualifier	X on Set	AN 1/30 or as		

Synt Seman	Segment: Position: Loop: Level: Usage: Max Use: Purpose: ax Notes: tic Notes: omments: Notes:	 n: 030 p: PTD d: Detail e: Optional e: 20 e: To specify identifying information s: 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. s: 1 REF04 contains data relating to the value cited in REF02. s: HI: Required for AEP Ohio when net meter is present on an account (will be required if/when FirstEnergy implements HI) 				
		IU: Not MU: No				
	Ref.	Data	Data Element Summary			
	Des.	Element	Name	X12 Attributes		
Must Use	REF01	128	Reference Identification Qualifier	M ID 2/3		
			Code qualifying the Reference Identification			
			KY Site Specific Procedures, Terms, and Special Meter Configuration	Conditions		
Must Use	REF02	127	Reference Identification Reference information as defined for a particular Transaction specified by the Reference Identification Qualifier NETMETER Net metering present	X AN 1/30 on Set or as		

Position:030Loop:PTD	${f F}$ Reference Identification (LO=Load Profile)					
Loop: PTD		030				
		PTD				
Level: Detail						
Usage: Option	al					
Max Use: 20						
Purpose: To spe	cify identifying information					
Syntax Notes: 1 A	least one of REF02 or REF03 is required.					
	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 R	EF04 contains data relating to the value cited in REF02.					
Comments:						
Notes: HI: R	equired if available					
HU: I	equired for AEP and First Energy (DP&L and Duke send in P	TD~PL/BC loops)				
IU: N	ot Used					
MU: 1	MU: Not Used					
REF~]	REF~LO~GS					
	Data Element Summary					
Ref. Data						
Des. Elemen		X12 Attributes				
ust Use REF01 128	Reference Identification Qualifier	M ID 2/3				
	Code qualifying the Reference Identification					
	LO Load Planning Number					
	Load profile					
ust Use REF02 127	Reference Identification	X AN 1/30				
	Reference information as defined for a particular Transacti	ion Set or as				
	specified by the Reference Identification Qualifier					
	Code qualifying the Reference Identification LO Load Planning Number Load profile Reference Identification	X AN 1/30				

Segme	: REF Reference Identification (NH=LDC Rate Class)	REF Reference Identification (NH=LDC Rate Class)				
Positi	: 030					
Lo	: PTD					
Lev	: Detail					
Usa	: Optional					
Max U						
Purpo						
Syntax Not	1					
	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 Not						
Commen						
Not		HI: Required				
	HU: Required for AEP and First Energy (DP&L and Duke send in PTD~PL/BO IU: Not Used	C 100ps)				
	MU: Not Used					
	REF~NH~GS1					
	Data Element Summary					
Ref	Data					
Des	Element Name Attribu	ites				
Must Use REF		2/3				
	Code qualifying the Reference Identification					

Must UseREF02127NHLDC Rate CodeMust UseREF02127Reference IdentificationXAN 1/30Reference information as defined for a particular Transaction Set or as
specified by the Reference Identification Qualifier

Segment:	REF Reference Identification (LF=Loss Factor)					
Position:	030					
Loop:	PTD					
Level:	Detail					
Usage:	Optional					
Max Use:	20					
Purpose:	To specify identifying information					
Syntax Notes:	1 At least one of REF02 or REF03 is required.					
	2 If either C04003 or C04004 is present, then the other is required.					
	3 If either C04005 or C04006 is present, then the other is required.					
Semantic Notes:	1 REF04 contains data relating to the value cited in REF02.					
Comments:						
Notes:	HI: Required for First Energy companies (if/when HI supported) & AEP Ohio; optional					
	for DP&L and Duke Energy Ohio					
	HU: Required for First Energy companies & AEP Ohio; optional for DP&L and Duke					
	Energy Ohio IU: Not Used					
	MU: Not Used					
	REF~LF~2					
	Data Element Summary					
Ref.	Data					

Must Use	<u>Des.</u> REF01	Element 128	NameX12Reference Identification QualifierMCode qualifying the Reference IdentificationM		2 <u>Attributes</u> ID 2/3	
			LF	Load Planning Number Loss Factor		
Must Use	REF02	127	Reference Iden Reference informat Identification Quali	ion as defined for a particular Transaction Set or as s	X pecified l	AN 1/30 by the Reference

DFF				
KEF	Reference	Identification	$(\mathbf{PR} = \mathbf{EDU})$	Rate Subclass)

Segment:	REF	Reference Identification (PR = EDU Rate Subclass)			
Position:	030				
Loop:	PTD	Mandatory			
Level:	Detail	2			
Usage:	Optional				
Max Use:	1				
Purpose:	To specif	y identifying information			
Syntax Notes:	1 At le	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:	1 REF	04 contains data relating to the value cited in REF02.			
Comments:					
Notes:	HI: Conditional – send if there are metered services on the account if it is stored in the				
	EDU system				
	HU: Conditional – send if there are metered services on the account and if it is stored in				
	the EDU	system			
	IU: Not Used				
	MU: Not Used				
	REF~PR~HEAT				
	REF~PR~WHA				
		Data Element Summary			
Ref.	Data				
Des.	Element	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	on Set or as		
		specified by the Reference Identification Qualifier			

EDU Rate Subclass or Revenue Class

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REF Reference Identification (SV=Service Voltage)

	Segment:	KEF Reference Identification (SV=Service Voltage)				
	Position:	030				
	Loop:	PTD				
	Level:	Detail				
	Usage:	Optional				
	Max Use:	20				
	Purpose:	To specif	y identifying information			
Syı	ntax Notes:	1 At le	ast one of REF02 or REF03 is re	equired.		
			ner C04003 or C04004 is presen			
			ner C04005 or C04006 is presen	· 1		
Sema	ntic Notes:	1 REF	04 contains data relating to the v	value cited in REF02.		
(Comments:					
	Notes:	 HI: Required for First Energy companies (if/when HI supported) & AEP Ohio; optional for DP&L and Duke Energy HU: Required for First Energy companies & AEP Ohio; optional for DP&L and Duke Energy Ohio IU: Not Used MU: Not Used REF~SV~SECONDARY 				
			Data Element Summa	ary		
	Ref.	Data		-		
	Des.	<u>Element</u>	Name		X12 Attributes	
Must Use	REF01	128	Reference Identification Qua Code qualifying the Reference Identified		M ID 2/3	
			SV Service C	harge Number		
			Service V	-		
Must Use	REF02	127	Reference Identification Reference information as defined for a Identification Qualifier	0	X AN 1/30 ecified by the Reference	
			PRIMARY			
			SECONDARY			
			Actual service voltage t	transmission value (Ex: 34.5	5kV)	

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Segment:	QTY Quantity (KC=Peak Load Contribution)
Position:	110
Loop:	QTY
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To specify quantity information
Syntax Notes:	1 At least one of QTY02 or QTY04 is required.
	2 Only one of QTY02 or QTY04 may be present.
Semantic Notes:	1 QTY04 is used when the quantity is non-numeric.
Comments:	
Notes:	HI: Required for PJM Customers; otherwise not used
	HU: Required for PJM Customers; otherwise not used
	IU: Not Used
	MU: Not Used
	Each QTY/MEA/DTM loop conveys consumption information about one metering period.
	The value provided is at the Account or Service Delivery Identifier Number level for AEP.
	Zero values may be sent if the EDU is, in fact, stating that there is no contribution for this
	customer's account
Example:	QTY*KC*752*K1

		-	Data Eleme	ent Summary
Must Use	Ref. <u>Des.</u> QTY01	Data <u>Element</u> 673	<u>Name</u> Quantity Qualifier Code specifying the	
			КС	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	Quantity 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

Position:210Loop:QTYLevel:DetailUsage:OptionalMax Use:10Purpose:To specify pertinent dates and timesSyntax Notes:1At least one of DTM02 DTM03 or DTM05 is r2If DTM04 is present, then DTM03 is required.3If either DTM05 or DTM06 is present, then theSemantic Notes:HI:Comments:Notes:HI:Required for PJM Customers; otherwise not uU:Not UsedMU:Not UsedThe QTY/DTM loop may be sent twice dependingUsage is being provided.(PLC is effective June 1)current PLC and a second iteration will show the PIdefined in the DTM segment.Current PLC and a second iteration will show the PIdefined in the DTM segment.Current PLC and a second iterations.For example, in February 2014 the PLC values wout QTY*KC*476*K1DTM*007****RD8*20130601-20140531QTY*KC*450*K1DTM*007****RD8*20140601-20150531			Y pertinent dates and times east one of DTM02 DTM03 or DTM05 is required. FM04 is present, then DTM03 is required. her DTM05 or DTM06 is present, then the other is required. quired for PJM Customers; otherwise not used uired for PJM Customers; otherwise not used t Used t Used t/DTM loop may be sent twice depending on the time of year being provided. (PLC is effective June 1 - May 31) One ite LC and a second iteration will show the PLC that will be effi- n the DTM segment. Currently the EDUs change the PLC ef- s are aware of what the next effective PLC will be (typically egin providing it on transactions. mple, in February 2014 the PLC values would be reported as: C*476*K1 V7****RD8*20130601-20140531 C*450*K1 V7****RD8*20140601-20150531 in September 2014 the PLC value would include only one lo g year's PLC is undetermined: C*450*K1	r the H eration ective fective in Dec	a will show the in the period 2 June 1st. Once cember) they	
	Example: DTM*007****RD8*20070601-20080531					
Data Element Summary						
	Ref. <u>Des.</u>	Data <u>Element</u>	Name	Attı	<u>ributes</u>	
Must Use	DTM01	374	Date/Time Qualifier Code specifying type of date, or time, or both date and time	М	ID 3/3	
Must Use	DTM05	1250	007 Effective PLC Effective Date 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		
Must Use	DTM06	1251	Date/Time Period Expressed as CCYYMMDD-CCYYMMDD	Х	AN 1/35	

Segment:	QTY Quantity (KZ=Network Service Peak Load)						
Position:	110						
Loop:	QTY						
Level:	Detail						
Usage:	Optional						
Max Use:	1						
Purpose:	To specify quantity information						
Syntax Notes:	1 At least one of QTY02 or QTY04 is required.						
	2 Only one of QTY02 or QTY04 may be present.						
Semantic Notes:	1 QTY04 is used when the quantity is non-numeric.						
Comments:	nments:						
Notes:							
	HU: Required for PJM Customers; otherwise not used						
	IU: Not Used						
	MU: Not Used						
	Each QTY/MEA/DTM loop conveys consumption information about one metering interval. The						
	value provided is at the Account or Service Delivery Identifier Number level for AEP						
	Zero values may be sent if the EDU is, in fact, stating that there is no contribution for this						
customer's account.							
Example:	QTY*KZ*752*K1						

Data Elem	ent Summary
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Data Element Summary							
	Ref.	Data					
	Des.	<u>Element</u>	<u>Name</u>		Attr	<u>ributes</u>	
Must Use	QTY01	673	Quantity Qualifier		Μ	ID 2/2	
			Code specifying the	type of quantity			
			KZ	Corrective Action Requests - Written			
				Network Service Peak Load (a.k.a. Tr	ansmi	ssion	
				Contribution or 1CP): Customer's peak load contribution			
				provided to PJM for the Transmission Service calculation			
				(coincident with LDC peak).			
Must Use	QTY02	380	Quantity		Х	R 1/15	
			Numeric value of qu	lantity			
Must Use	QTY03	355	Unit or Basis for M	leasurement Code	Μ	ID 2/2	
	-		Code specifying the units in which a value is being expressed, or manner in				
			which a measurement	nt has been taken			
			K1	Kilowatt Demand			
				Represents potential power load meas	ured a	t	
				predetermined intervals			
				•			

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

	Segmer	it: $\mathbf{D} \mathbf{I} \mathbf{N}$	Date/Time Reference (007=NSPL Effective Date)				
	Position:	210					
	Loop:	QTY					
	Level:	Detail					
	Usage:	Optional					
	Max Use:	10					
	Purpose:	To specif	fy pertinent dates and times				
Syn	tax Notes:	1 At le	east one of DTM02 DTM03 or DTM05 is required.				
		2 If D'	TM04 is present, then DTM03 is required.				
		3 If eit	ther DTM05 or DTM06 is present, then the other is required.				
	ntic Notes:						
C	comments:						
	Notes:		quired for PJM Customers; otherwise not used				
			quired for PJM Customers; otherwise not used				
			IU: Not Used				
		MU: No	t Used				
			for January 1 - December 31				
The QTY/DTM loop may be sent twice when the Utility is providing both the current NSP and the NSPL that will be effective for a subsequent period. This will occur for short period of time between when the future value is sent via the 814C and the effective date of the fut value.							
		For even	ple, you may receive either two loops:				
			Z*476*K1				
		~)7****RD8*20130101-20131231				
			Z*450*K1				
)7****RD8*20140101-20141231				
		2111 00					
		Or just o	ne:				
	QTY*KZ*450*K1 DTM*007****RD8*20140101-20141231						
	Ohio EDU Implementation of this segment as per EDI CC 108:						
	AEP – 3Q 2014						
	DP&L and Duke Energy Ohio – by 12/31/14						
	FirstEnergy - TBD						
	Example:	DTM*00)7****RD8*20070601-20080531				
	Def	D-4-	Data Element Summary				
	Ref.	Data Element	Nome	A ++-			
	Des.	<u>Element</u>	Name	Atti	ributes		
Must Use	DTM01	374	Date/Time Qualifier	М	ID 3/3		
112000 000	2 11101	••••	Code specifying type of date, or time, or both date and time		22 010		
			007 Effective				
			NSPL Effective Date				
Must Use	DTM05	1250	Date/Time Period Format Qualifier	X	ID 2/3		
must Use	D 1 10105	1430	Code indicating the date format, time format, or date and ti				
			-	101			
			RD8 Range of Dates Expressed in Format				
		1051	CCYYMMDD-CCYYMMDD	v	A NT 1 /2E		
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	/					
	Usage:	Mandato	ry					
	Max Use:	1						
	Purpose:	To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)						
	Syntax Notes:							
	Semantic Notes:							
	Comments:	1 SE i	s the last segment of each transaction set.					
	Notes:	Required						
		SE~28~00000001						
	Data Element Summary							
	Ref.	Data						
	Des.	Element	Name		<u>ibutes</u>			
Μ	SE01	96	Number of Included Segments	Μ	N0 1/10			
			Total number of segments included in a transaction set includ	ing ST	Γ and SE			
			segments					
Μ	SE02	329	Transaction Set Control Number	Μ	AN 4/9			
		Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set						
			renerional group assigned by the originator for a transaction s	01				

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

4/10/2017 3:46:43 PM

in

Case No(s). 17-0094-EL-EDI

Summary: Application EDI Implementation Guideline for Ohio - 867 Usage electronically filed by Mr. Joseph D Lindsay on behalf of Ohio EDI Working Group