

# **Arizona Implementation Guidelines for ANSI ASC X12 EDI Ver/Rel 004010 867 - Meter Data Exchange**

**VERSION: 1.0.4 Proposed final**

**Modified: July 14, 1999**

**Notes: proposed final Document**

**Revision notes (version 1.0.3 => version 1.0.4):**

- **Clarified PDT ref02 MT example text for metering intervals to start on top of hour.**
- **Fixed example 03 historical demand, changed REF MT from K101567 to K101551 to be consistent with text.**

# 867 Product Transfer and Resale Report

## Functional Group=PT

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

This document describes the implementation to be used for the Arizona electric meter read data transfer.

### Notes:

2/010 Each use of the PTD loop will represent one meter register

### Heading:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
010	ST	Transaction Set Header	M	1			Must use
020	BPT	Beginning Segment for Product Transfer and Resale	M	1			Must use
<b>LOOP ID - N1</b>					<u>5</u>		
090	N1	Name	O	3			Must use
130	REF	Reference Identification	O	2			Must use

### Detail:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
<b>LOOP ID - PTD</b>					<u>≥1</u>		
010	PTD	Product Transfer and Resale Detail	M	1		N2/010	Must use
030	REF	Reference Identification	O	10			Used
<b>LOOP ID - QTY</b>					<u>≥1</u>		
150	QTY	Quantity	O	1			Must use
230	MEA	Measurements	O	1			Used
260	REF	Reference Identification	O	2			Used
280	DTM	Date/Time Reference	O	2			Used

### Summary:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
040	SE	Transaction Set Trailer	M	1			Must use

# ST Transaction Set Header

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

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

**Semantics:**

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

**Element Summary:**

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>				
ST01	143	<b>Transaction Set Identifier Code</b> <b>Description:</b> Code uniquely identifying a Transaction Set	M	ID	3/3	Must use				
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>867</td> <td>Product Transfer and Resale Report</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	867	Product Transfer and Resale Report				
<u>Code</u>	<u>Name</u>									
867	Product Transfer and Resale Report									
ST02	329	<b>Transaction Set Control Number</b> <b>Description:</b> Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set.	M	AN	4/9	Must use				

# BPT Beginning Segment for Product Transfer and Resale

Pos: 020	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 5

To indicate the beginning of the Product Transfer and Resale Report Transaction Set and transmit identifying data

## Syntax:

## Semantics:

1. BPT02 identifies the transfer/resale number.
2. BPT03 identifies the transfer/resale date.
3. BPT09 is used when it is necessary to reference a requesting document.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>												
BPT01	353	<b>Transaction Set Purpose Code</b> <b>Description:</b> Code identifying purpose of transaction set	M	ID	2/2	Must use												
		<table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>00</td> <td>Original <b>Description:</b> Conveys original readings for the account being reported. Use for both Inbound and Outbound transactions</td> </tr> <tr> <td>07</td> <td>Duplicate <b>Description:</b> Indicates that this is a retransmission of previously furnished information. Use for both Inbound and Outbound transactions</td> </tr> <tr> <td>22</td> <td>Information Copy <b>Description:</b> Indicates that meter data is for information only and not to be used for billing purposes</td> </tr> <tr> <td>52</td> <td>Response to Historical Inquiry <b>Description:</b> Response to a request for historical meter reading. Used for Outbound only</td> </tr> <tr> <td>CO</td> <td>Corrected <b>Description:</b> Indicates that the readings previously reported for the account are being corrected. Use for both Inbound and Outbound transactions</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	00	Original <b>Description:</b> Conveys original readings for the account being reported. Use for both Inbound and Outbound transactions	07	Duplicate <b>Description:</b> Indicates that this is a retransmission of previously furnished information. Use for both Inbound and Outbound transactions	22	Information Copy <b>Description:</b> Indicates that meter data is for information only and not to be used for billing purposes	52	Response to Historical Inquiry <b>Description:</b> Response to a request for historical meter reading. Used for Outbound only	CO	Corrected <b>Description:</b> Indicates that the readings previously reported for the account are being corrected. Use for both Inbound and Outbound transactions				
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BPT02	127	<b>Reference Identification</b> <b>Description:</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier. It is a unique transaction identification number assigned by the originator of this transaction.	O	AN	1/30	Used												
BPT03	373	<b>Date</b> <b>Description:</b> Date expressed as CCYYMMDD. Transaction Creation Date	M	DT	8/8	Must Use												
BPT04	755	<b>Report Type Code</b> <b>Description:</b> Code indicating the title or contents of a document, report or	O	ID	2/2	Used												

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>						
		supporting item										
		<table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>C1</td> <td>Cost Data Summary <b>Description:</b> Interval readings</td> </tr> <tr> <td>DD</td> <td>Monthly reads <b>Description:</b> Usage</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	C1	Cost Data Summary <b>Description:</b> Interval readings	DD	Monthly reads <b>Description:</b> Usage				
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DD	Monthly reads <b>Description:</b> Usage											
<b>BPT09</b>	<b>127</b>	<p><b>Reference Identification</b></p> <p><b>Description:</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier.</p> <p><b>User Note 1:</b> When BPT01 = 52 , this element may contain the DASR number which initiated this request.</p>	<b>O</b>	<b>AN</b>	<b>1/30</b>	<b>Used</b>						

# N1 Name

Pos: 090	Max: 1
Heading - Optional	
Loop: N1	Elements: 5

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

### Syntax:

- R0203 -- At least one of N102 or N103 is required.
- P0304 -- If either N103 or N104 are present, then the others are required.

### Comments:

- This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party.
- At least two N1 segments will be used in Arizona. One identifying the originator of the transaction, the other identifying the receiver of the transaction.

### Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>								
N101	98	<b>Entity Identifier Code</b> <b>Description:</b> Code identifying an organizational entity, a physical location, property or an individual	I	ID	2/3	Must Use								
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>55</td> <td>Service Manager <b>Description:</b> Used to identify the party that manages meter data on behalf of another. Meter Reading Service Provider (MRSP)</td> </tr> <tr> <td>8S</td> <td>Consumer Service Provider (CSP) <b>Description:</b> Utility (UDC)</td> </tr> <tr> <td>SJ</td> <td>Service Provider <b>Description:</b> Energy Service Provider (ESP)</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	55	Service Manager <b>Description:</b> Used to identify the party that manages meter data on behalf of another. Meter Reading Service Provider (MRSP)	8S	Consumer Service Provider (CSP) <b>Description:</b> Utility (UDC)	SJ	Service Provider <b>Description:</b> Energy Service Provider (ESP)				
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SJ	Service Provider <b>Description:</b> Energy Service Provider (ESP)													
N102	93	<b>Name</b> <b>Description:</b> Free-form name, this name if used is only for clarity of the transaction. Not used in processing, not verified consistent with N104.	C	AN	1/60	Used								
N103	66	<b>Identification Code Qualifier</b> <b>Description:</b> Code designating the system/method of code structure used for Identification Code (67)	C	ID	1/2	Used								
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>D-U-N-S Number, Dun &amp; Bradstreet <b>Description:</b> 9 digit Duns number required by all AZ Utilities except SRP.</td> </tr> <tr> <td>91</td> <td>Assigned by Seller or Seller's Agent <b>Description:</b> An identifier assigned by the Utility this option is only supported by SRP at this time.</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	1	D-U-N-S Number, Dun & Bradstreet <b>Description:</b> 9 digit Duns number required by all AZ Utilities except SRP.	91	Assigned by Seller or Seller's Agent <b>Description:</b> An identifier assigned by the Utility this option is only supported by SRP at this time.						
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N104	67	<b>Identification Code</b> <b>Description:</b> Code identifying a party or other code	C	AN	2/80	Used								

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
N106	98	<b>Entity Identifier Code</b> <b>Description:</b> Code identifying an organizational entity, a physical location, property or an individual	O	ID	2/3	Must Use

<u>Code</u>	<u>Name</u>
40	Receiver <b>Description:</b> Entity to accept transmission
41	Submitter <b>Description:</b> Entity transmitting transaction set

# REF Reference Identification

Pos: 130	Max: 12
Heading - Optional	
Loop: N1	Elements: 3

To specify identifying information

## Syntax:

## Semantics:

1.

## Comments:

1. The Service Delivery site is identified in this segment. Multiple meters may be associated with one delivery site.
2. Only one REF01 code is required.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>						
REF01	128	<b>Reference Identification Qualifier</b> <b>Description:</b> Code qualifying the Reference Identification	I	ID	2/3	Must Use						
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>11</td> <td>Account Number <b>Description:</b> Energy Service Provider-assigned account Number for the end use customer. <b>Required by SRP on both inbound and outbound transactions.</b></td> </tr> <tr> <td>LU</td> <td>Location Number <b>Description:</b> Identification Number for the point where service is delivered to the customer - Universal Node ID (UNI). If more than one delivery point at a site, this will be the first UNI at that site. <b>Required by all UDCs except SRP on both inbound and outbound transactions.</b></td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	11	Account Number <b>Description:</b> Energy Service Provider-assigned account Number for the end use customer. <b>Required by SRP on both inbound and outbound transactions.</b>	LU	Location Number <b>Description:</b> Identification Number for the point where service is delivered to the customer - Universal Node ID (UNI). If more than one delivery point at a site, this will be the first UNI at that site. <b>Required by all UDCs except SRP on both inbound and outbound transactions.</b>				
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REF02	127	<b>Reference Identification</b> <b>Description:</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	C	AN	1/30	Must Use						

# PTD Product Transfer and Resale Detail

Pos: 010	Max: 1
Detail - Mandatory	
Loop: PTD	Elements: 3

To indicate the start of detail information relating to the transfer/resale of a product and provide identifying data. Each PTD represents one meter register

## Syntax:

P0405 -- If either PTD04 or PTD05 is present, then the other is required.

## Comments:

Each PTD loop will represent a meter register, whether demand, monthly, or detailed interval data.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>						
PTD01	521	<b>Product Transfer Type Code</b> <b>Description:</b> Code identifying the type of product transfer	M	ID	2/2	Must Use						
		<table border="0"> <tr> <td style="text-align: center;"><u>Code</u></td> <td style="text-align: center;"><u>Name</u></td> </tr> <tr> <td>PM</td> <td>Physical Meter Information</td> </tr> <tr> <td></td> <td><b>Description:</b> Individual meter installation.</td> </tr> </table>	<u>Code</u>	<u>Name</u>	PM	Physical Meter Information		<b>Description:</b> Individual meter installation.				
<u>Code</u>	<u>Name</u>											
PM	Physical Meter Information											
	<b>Description:</b> Individual meter installation.											
PTD04	128	<b>Reference Identification Qualifier</b> <b>Description:</b> Code qualifying the Reference Identification	C	ID	2/3	Used						
		<table border="0"> <tr> <td style="text-align: center;"><u>Code</u></td> <td style="text-align: center;"><u>Name</u></td> </tr> <tr> <td>OZ</td> <td>Product Number</td> </tr> </table>	<u>Code</u>	<u>Name</u>	OZ	Product Number						
<u>Code</u>	<u>Name</u>											
OZ	Product Number											
PTD05	127	<b>Reference Identification</b> <b>Description:</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	C	AN	1/30	Used						
		<table border="0"> <tr> <td style="text-align: center;"><u>Code</u></td> <td style="text-align: center;"><u>Name</u></td> </tr> <tr> <td>EL</td> <td>Electric Service</td> </tr> </table>	<u>Code</u>	<u>Name</u>	EL	Electric Service						
<u>Code</u>	<u>Name</u>											
EL	Electric Service											

# REF Reference Identification

Pos: 030	Max: 20
Detail - Optional	
Loop: PTD	Elements: 3

To specify identifying information

## Syntax:

## Semantics:

1.

## Comments:

- At least three REF records are required for every PTD loop: LU, MT, and MG if metered service - LU, MT, and SC if un-metered service.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>																
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<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
		<p>SU Special Processing Code</p> <p><b>Description:</b> Life support equipment verification. See REF02 for valid values. Optional field only supported by SRP.</p>				
REF02	127	<p><b>Reference Identification</b></p> <p><b>Description:</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier</p> <p><b>User Note 1:</b> When REF01 is SU, valid values for REF02 are:</p> <p>Y - Life Support Required</p> <p>N - Life Support Not Required</p> <p>I - Investigating whether Life Support is Required</p> <p><b>User Note 2:</b> When REF01 is SC, valid value for REF02 is:</p> <p>U- Unmetered</p> <p><b>User Note 3:</b> When REF01 is MT, the meter type is expressed as a seven character field. The first two characters are the type of consumption, expressed as:</p> <p>K1 – Kilowatt Demand</p> <p>K2 – Kilovolt Amperes Reactive Demand</p> <p>K3 - Kilovolt Amperes Reactive Hour</p> <p>KH – Kilowatt Hour</p> <p>The next three-characters are the metering interval, expressed as:</p> <p>Nnn = number of minutes: , from 001 to 999 in factors or multiples of 60</p> <p>Initially in Arizona only 60 minutes and 15 minutes are supported. The interval must start at the top of the hour for 60 minute intervals and on the quarter hour for 15 minute intervals. For transaction files with 15 min intervals the first interval should start at the top of an hour and the last interval should stop at the top of an hour.</p> <p>DAY = daily *</p> <p>MON = monthly (any period data defined by a start date and end date).</p> <p>ANN = annual *</p> <p>BIA = bi-annual *</p> <p>BIM = bi-monthly *</p> <p>QTR = quarterly *</p> <p>(* Coordinate with receiver prior to using codes other than 060, 015, or MON as not all frequencies are supported by all trading partners.)</p> <p>The last two characters are the register type, expressed as: (Coordinate with receiver prior to using any of the following codes as not all codes are supported by all trading partners).</p> <p>41 = Off Peak</p>	C	AN	1/30	Must Use

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
		42 = On Peak (For TEP Documents – Peak-1)				
		45 = Summer On Peak				
		49 = Winter On Peak				
		51 = Total				
		63 = Peak-2				
		66 = Shoulder				
		67 = Non Time –Related Demand				
		73 = Summer Off Peak				
		75 = Winter Off Peak				
		96 = Interval (* used when BPT04 = C1)				
		Examples:				
		KHMON51: Kilowatt hours used during the month.				
		KHMON42: Kilowatt hours used during peak hours during the month.				
		K106042: Highest kilowatt demand hour which occurred during Peak period hours during the usage period.				
		K101551: Highest kilowatt demand 15min. which occurred during the usage period.				
		KH06096: Hourly intervals data.				
		K101567 Highest demand 15 min in which its time stamp in the QTY loop identifies the time that this 15 minute demand took place				
<b>REF03</b>	<b>352</b>	<b>Description</b>				
		<b>Description:</b> A free form description to clarify the related data elements and their content. Optional: SRP may provide reference to a related Meter Number in this field. May be used on SRP outbound messages for information only.	<b>C</b>	<b>AN</b>	<b>1/80</b>	<b>Used</b>

# QTY Quantity

Pos: 150	Max: 1
Detail - Optional	
Loop: QTY	Elements: 3

To specify quantity information

## Syntax:

## Semantics:

1.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>								
QTY01	673	Quantity Qualifier <b>Description:</b> Code specifying the type of quantity	M	ID	2/2	Must Use								
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>87</td> <td>Quantity Received from end use customer. <b>Description:</b> Received from the customer in a co-generation environment.</td> </tr> <tr> <td>QD</td> <td>Quantity Delivered to end use customer.</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	87	Quantity Received from end use customer. <b>Description:</b> Received from the customer in a co-generation environment.	QD	Quantity Delivered to end use customer.						
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QD	Quantity Delivered to end use customer.													
QTY02	380	Quantity <b>Description:</b> Numeric value of quantity	C	R	1/15	Must Use								
QTY03	C001	Composite Unit of Measure <b>Description:</b> To identify a composite unit of measure.	O	Comp		Used								
	355	Unit or Basis for Measurement Code <b>Description:</b> Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	M	ID	2/2	Must Use								
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<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
		the product of reactive power (kVAR) and the length of time (hours). Reactive energy is energy that cannot perform any work.				
	KH	Kilowatt Hour (KWH) <b>Description:</b> The total real energy delivered to the load, the accumulation of the product of real power (KW) and time in hours. Real energy is energy that can perform actual work.				

# MEA Measurements

Pos: 230	Max: 40
Detail - Optional	
Loop: QTY	Elements: 7

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

### Syntax:

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

### Semantics:

1. MEA04 defines the unit of measure for MEA03, MEA05, and MEA06.

### Comments:

1. On the MEA record, the beginning and ending read are always provided for all KH and K3 type measurements, except interval reads (96) and unmetered usage (ref SC = U)
2. On the MEA record, the demand read is provided for all K1 and K2 type measurements, except unmetered usage.
3. On the MEA record, when interval reads are being provided (96) the interval pulse count may be provided in MEA06.

### Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
MEA01	737	Measurement Reference ID Code	O	ID	2/2	Used

**Description:** Defines the quality of the meter read defined in MEA05 & MEA06.

Code      Name

**The following four codes are required for monthly usage reads to qualify fields five and six. Not used for interval reads.**

- AA Meter reading-beginning actual/ending actual
- AE Meter reading-beginning actual/ending estimated
- EA Meter reading-beginning estimated/ending actual
- EE Meter reading-beginning estimated/ending estimated

BO Meter Reading as Billed

**Description:** Used for unmetered accounts. Used when billing charges are based on contractual agreements or pre-established usage and not on actual usage.

MEA02	738	Measurement Qualifier	O	ID	1/3	Used
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**Description:** Code identifying a specific product or process characteristic to which a measurement applies

Code      Name

MU Multiplier

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>										
		<p><b>Required for non -interval usage.</b></p> <p>PJ Pulse Width</p> <p><b>Description:</b> Pulse multiplier</p>														
MEA03	739	<p><b>Measurement Value</b></p> <p><b>Description:</b> The value of the measurement and only used if MEA02=MU</p> <p><b>User Note 1:</b> Represents the meter constant when MEA02 = "MU". When no multiplier is present, use a value of "1".</p> <p>The difference of the meter reads in MEA05 &amp; MEA06 times this multiplier should be equal to the value in QTY02. (accounting for roll over).</p> <p>When MEA02 = PJ, the value in MEA06 times this multiplier should equal the interval value in QTY02</p>	C	R	1/20	Used										
MEA04	C001	<p><b>Composite Unit of Measure</b></p> <p><b>Description:</b> To identify a composite unit of measure</p>	C	Comp		Used										
	355	<p><b>Unit or Basis for Measurement Code</b></p> <p><b>Description:</b> Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken. This should be the same as that found on the QTY record.</p>	M	ID	2/2	Must Use										
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MEA05	740	<p><b>Range Minimum</b></p> <p><b>Description:</b> The value specifying the beginning meter read.</p> <p><b>Required for monthly usage. Not used for demand values or interval reads.</b></p>	C	R	1/20	Used										
MEA06	741	<p><b>Range Maximum</b></p> <p><b>Description:</b> The value specifying the ending reading or single reading (e.g., demand) or optionally the number of pulses for interval data.</p> <p><b>Required for monthly usage and demand values. Optional for interval</b></p>	C	R	1/20	Used										

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
MEA07	935	<p><b>Measurement Significance Code</b></p> <p><b>Description:</b> Code used to benchmark, qualify or further define usage conveyed in QTY02.</p> <p><b>reads.</b></p> <p><b>Code Name</b></p> <p>22 Actual -normal usage passed validation (included non-metered)</p> <p>46 Estimated - usage not derived from actual meter reads.</p> <p>83 Good Verified – value appears anomalous but has been verified.</p> <p>88 Adjusted</p>	O	ID	2/2	Used

# REF Reference Identification

Pos: 260	Max: >1
Detail - Optional	
Loop: QTY	Elements: 3

To specify identifying information

## Syntax:

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

## Semantics:

1. REF04 contains data relating to the value cited in REF02.

## Notes:

1. This segment is required when the MEA07 = 46 (estimated), based on ACC rules. Not required for meters in SRP territory.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
REF01	128	<b>Reference Identification Qualifier</b> <b>Description:</b> Code qualifying the Reference Identification - Estimate Reason Code	M	ID	2/3	Must Use

Code    Name

ESN Estimate Sequence Number

REF02	127	<b>Reference Identification</b> <b>Description:</b> Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier	C	AN	1/30	Used
-------	-----	--	---	----	------	------

Code    Name

- EA1 = Extreme Weather - Flood
- EA2 = Extreme Weather - Snow
- EA3 = Extreme Weather - Storm
- EA4 = Extreme Weather
- EA5 = Labor Disagreement
- EA6 = Emergency
- EB0 = Self read not received from customer
- EC1 = No Access - Bad Animal
- EC2 = No Access - Gate Locked
- EC3 = No Access - Trim Foliage
- EC4 = No Access - No Answer at Premises
- EC5 = No Access - Meter Blocked
- EC6 = No Access - Irrigation
- EC7 = No Access - Business Not Open

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
		EC8 = No Access				
		ED1 = Customer Meter Equipment Failure				
		ED2 = Customer Meter Removed				
		ED3 = Customer Meter Changed				
		ED4 = Customer Dirty Meter Glass				
		EE0 = Read Not Received From Meter Reading Agent				
		EE1 = Other				
		EV1 = Meter Was Misread				
		EV2 = Zero Consumption - Check Failure				
		EV3 = High/Low Check Failure				
		EV4 = Meter in Test (Interval Estimate Only)				
		EV5 = Demand Not Reset				
		EV6 = Energy Diversion - Read Estimated				
		MA1 = Power Failure in Interval				
		MA2 = Meter Tamper				
		MS1 = Dead Meter				
		MS2 = Kit Faulted Service				
		MS3 = Kit Source Service				
		MS4 = Flatted in UDC				
		MS5 = Exposed Wiring				
		MS6 = Low Service Wire				
		MS7 = Meter Destroyed				
		MS8 = Broken Glass				
		MS9 = Service Wires in Trees				
		MS10 = Curled Dial				
		MS11 = Demand Won't Reset to Zero				
		MS12 = Wrong Meter Number				
		MS13 = Wrong Address				
		MS14 = Battery Failure				
		MS15 = Pot Light				
		MD1 = Wrong Color Seal				
		MD2 = Inverted Meter				
		MD3 = Meter Not Sealed				
		MD4 = Ring Damaged				
		MD5 = Jumpers Bypassed				
		MD6 = Diversion				
		MD7 = No Panel Seal				
		MD8 = Hole in Cover				
		MD9 = Disc Jammed				
		MD10 = Stolen Meter Installed				
		GT = Go to REF03 for Description				

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
REF03	352	<b>Description</b> <b>Description:</b> A free-form description to clarify the related data elements and their content.	C	AN	1/80	Used

# DTM Date/Time Reference

Pos: 280	Max: 10
Detail - Optional	
Loop: QTY	Elements: 3

To specify pertinent dates and times

## Syntax:

P0506 -- If either DTM05 or DTM06 is present, then the other is required.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>						
DTM01	374	<b>Date/Time Qualifier</b> <b>Description:</b> Code specifying type of date or time, or both date and time	M	ID	3/3	Must Use						
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>150</td> <td>Service Period Start</td> </tr> <tr> <td>151</td> <td>Service Period End</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	150	Service Period Start	151	Service Period End				
<u>Code</u>	<u>Name</u>											
150	Service Period Start											
151	Service Period End											
DTM02	373	<b>Date (not used at this time)</b> <b>Description:</b> Date expressed as CCYYMMDD	O	DT	8/8	Used						
DTM03	337	<b>Time (not used at this time)</b> <b>Description:</b> Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, HHMMSSDD where H= Hours (00-23), M = Minutes (00-59), S = Integer seconds (00-59), and DD = Decimal seconds: decimal seconds are expressed as follows: D= tenths (0-9) and DD = hundredths (00-99)	O	TM	4/8	Used						
DTM04	623	<b>Time Code</b> <b>Description:</b> Code identifying the time. No change for Daylight Savings Time.	O	ID	2/2	Must Use						
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>MS</td> <td>Mountain Standard Time</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	MS	Mountain Standard Time						
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DTM05	1250	<b>Date Time Period Format Qualifier</b> <b>Description:</b> Code indicating the date format, time format, or date and time format	C	ID	2/3	Must Use						
		<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Name</u></th> </tr> </thead> <tbody> <tr> <td>D8</td> <td>Date Expressed in Format CCYYMMDD When D8 is used the time is assumed to default to 0000.</td> </tr> <tr> <td>DT</td> <td>Date and Time Expressed in Format CCYYMMDDHHMM</td> </tr> </tbody> </table>	<u>Code</u>	<u>Name</u>	D8	Date Expressed in Format CCYYMMDD When D8 is used the time is assumed to default to 0000.	DT	Date and Time Expressed in Format CCYYMMDDHHMM				
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DT	Date and Time Expressed in Format CCYYMMDDHHMM											
DTM06	1251	<b>Date Time Period</b> <b>Description:</b> Expression of a date, a time, or range of dates, times or dates and times.	C	AN	1/35	Used						

# SE Transaction Set Trailer

Pos: 040	Max: 1
Summary - Mandatory	
Loop: N/A	Elements: 2

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

**Comments:**

- SE is the last segment of each transaction set.

**Element Summary:**

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