Appendix 1: Work Order Management System (WOMS) Files

This document details the format and content for the various files discussed in section 2.4.4 Data Transfer of the EPI SOW and Specification document.

Shipper Files

Shipper files from SAWS' AMI solution vendor Itron will be placed on the EPI Vendor's SFTP by Itron. Distinct shipper files exist for meter and AMI communication modules. The files will be available to SAWS and the EPI Vendor for consumption into their CIS and WOMS respectively from the SFTP site. These files will be used to validate receivables and create the assets in their respective management systems. Following are the required layouts and formats for these files.

AMI Communications Modules:

FIELD NAME	DESCRIPTION	EXPECTED VALUE
Shipment Number	Numeric	XXXXXXXX
Ship Date	Date of shipment of 500W	MMDDYYYY
Stock Number A	Component ID	W886XXX
Warehouse Code		NoCode
Pallet Number	Pallet number on which 500W is located	XXXXXXX
Box Number	Carton on pallet that contains 500W	CARTON XXXXXXX
Stock Number A		W886001
Serial Number A		XXXXXXXXX
Security Level A		10
SKTF A		[blank]
Stock Number B		[blank]
Serial Number B		[blank]
Security Level B		[blank]
SKTF B		[blank]
RMA Number		[blank]
MAC Address	Specific Network Address	XXXXXXXXXXXXXXX

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Meters:

FIELD NAME	DESCRIPTION	EXPECTED VALUE
Box Number		XXXXXX
DMDE	Static Meter ID	XXXXXXX
DMDE production order	(Ignore)	XXXXXX
DMDE order no.	(Ignore)	XXXXXXXX
Article No.	Diehl part no.	XXXXXX
UOM	Unit of Measure	Gal
MeterSZ	Meter Size - range of expected sizes: 0.625, 0.75, 1.0, 1.5	X.XXX
MeterSZUOM	Meter Size UOM	inches
Lay Length Size	Lay length size in inches – examples of expected sizes: 7.5, 9, 10.7, 13, 17	XX.X
Manufactured Date	Date manufactured of Meter	MM/DD/YYYY
DEVICE_UOM	Text field indicating UOM Granularity of the Meter. Possible values include: "0.001 gal", "0.01 gal", "0.1 gal", "gal", "10 gal", "100 gal"	XXX.XXX gal
MeterModel	Model number of meter (differentiates "Hydrus 1.3" from "Hydrus 2.0")	XXXXXXX.X
MeterMfr	Meter manufacturer name. A Diehl meter will be referenced as "DIEHL".	XXXXX
NoOfDials	Represents the number of digits to the left of the decimal on the register display.	X
Decimals	Represents the number of digits to the right of the decimal on the register display.	X

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Export File

The Export File will contain of the entire data set of addresses that are eligible to be deployed. The Export File will be dropped by SAWS onto the EPI Vendor's SFTP site nightly, Tuesday through Saturday, at 2AM CT. Following is the required layout and format for this file.

FIELD NAME	DESCRIPTION	TYPE/LENGTH
EXTRACT_DATE	Date of Record Extraction	nvarchar2(9)
ACCOUNT	Customer Account #	nvarchar2(27)
DELINQ	Indicator if account is in a state of delinquency	
BILL CYCLE	Billing Cycle	nvarchar2(10)
ROUTE	Reading Route	nvarchar2(16)
SLID UNIT ID	Service Line ID/Curb Cock	nvarchar2(6)
SLID LONGITUDE	SLID Location	XXXXXXX.XXXX
SLID LATITUDE	SLID Location	YYYYYYY.YYYY
SRVC #	Service Address Street #	nvarchar2(10)
SRVC NAME	Service Address Street Name	nvarchar2(28)
SRVC POST DIR	Service Address Street Direction	nvarchar2(3)
CITY	Service Address City	nvarchar2(28)
STATE	Service Address State	nvarchar2(2)
ZIP	Service Address Zip Code	nvarchar2(10)
CUST NAME	Customer Name on Account	nvarchar2(85)
ACCT TYPE	Account Class: Res,Gen,Ind,etc.	nvarchar2(10)
LAND PHONE	Customer Home Phone	nvarchar2(30)
MOBILE PHONE	Customer Mobile Phone	nvarchar2(30)
EMAIL	Customer E-Mail	
MAIL ADDRESS	Customer Account Mailing Street	nvarchar2(40)
MAIL CITY	Customer Account Mailing City	nvarchar2(30)
MAIL STATE	Customer Account Mailing State	
MAIL ZIP	Customer Account Mailing Zip	nvarchar2(20)
METER EXCHANGE TYPE	Used to reference action to be taken at premise	
METER ID	Current Meter #	nvarchar2(20)

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FIELD NAME	DESCRIPTION	TYPE/LENGTH
METER TYPE	Single/Compound and Gallon/Cubic Foot identifier.	
METER UNITS	Cubic Feet or Gallons	
METER MULTIPLIER	"100" for all meters	
METER SRVC STATUS	Asset Status of Meter: IN SVC, OUT SVC, TURNED OFF	nvarchar2(10)
LAST CYCLE RD LOW	Reading for Single register meters and low side reading for Compound meters	number
LAST CYCLE RD HIGH	Null for Single register meters and High side reading for Compound meters	
RD SOURCE	Method Source of Last Reading	nvarchar2(10)
LAST RD DATE	Date of Last Cycle Read	nvarchar2(9)
INST CODE 1	Instruction Code (from Infor meter reading)	nvarchar2(300)
INST CODE 2	Instruction Code ((from Infor meter reading)	nvarchar2(300)
METER LOC	Code: Meter Location in Relation to Property	nvarchar2(10)
METER INSTALL DATE	Meter Install Date	nvarchar2(9)
METER MFG	Meter Manufacturer	nvarchar2(10)
METER MODEL	Meter Model #	nvarchar2(20)
METER SIZE	Meter Size	nvarchar2(6)
METER CON CF	Last Meter Consumption: CF	number
COMPONENT ID LOW	Serial number for Low 500W module	014XXXXXXX
COMPONENT TYPE LOW	Itron Low 500W	
COMPONENT ID HIGH	Serial number for High 500W module	014XXXXXXX
COMPONENT TYPE HIGH	Itron High 500W	
REGISTER ID LOW	Serial number of Low meter register	
REGISTER TYPE LOW		
REGISTER ID HIGH	Serial number of High meter register	

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FIELD NAME	DESCRIPTION	TYPE/LENGTH
REGISTER TYPE HIGH		
IS AMI ENABLED	Identifies if AMI Meter Exchange is complete.	YES/NO
COURTESY ALERT	YES if account has active alert code 8 or 67, Else NO	YES/NO
DEPLOYMENT AREA DESIGNATOR	Identifies the Phase (PP), Start Quarter (QQ), End Quarter (RR), and Year (YYY). PPQQRRYYYY	nvarchar2(9)
METER FLAG/RETURN		YES/NO
ADDRKEY		
DEVICE_UOM	UOM Granularity value applied by AMM/Temetra to data provide by 500W AMI communications module.	Text field indicating UOM Granularity of the Meter. Possible values include: "0.001 gal", "0.01 gal", "0.1 gal", "gal", "10 gal", "100 gal"
METER LONGITUDE	*Placeholder for LAT of meter location from FCS*	BLANK
METER LATITUDE	*Placeholder for LON of meter location from FCS*	BLANK
FIELD OPT OUT	~~*OPT OUT has been requested in the field, during the meter exchange. See 'AMI OPT OUT' BRD*~~. *Note: this field is no longer used as Opt Out is no longer allowed by SAWS.*	nvarchar2(3)
SEQUENCENUMBER		

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InforMeterChange File

Completed meter and AMI communications module installation transactions will be sent to SAWS by the EPI Vendor via the InforMeterChange file. This file will be placed on the EPI Vendor's SFTP site by 6:30pm daily, Monday through Saturday for pick up by SAWS' Infor CIS. Following is the required layout for this file.

FIELD NAME	DESCRIPTION	TYPE/LENGTH
SL_UNITID	Service Line ID/Curb Cock	nvarchar2(6)
WO DATETIME	Vendors Work Order Creation Date	DATE
REM METER ID	Meter ID to be Removed	nvarchar2(20)
FOUND METER ID	Meter ID Removed	nvarchar2(20)
REM METER READ LOW	Final LOW Reading on Removed Meter	FLOAT
REM METER READ HIGH	Final HIGH Reading on Removed Meter	FLOAT
NEW METER ID	Meter # installed	nvarchar2(20)
NEW METER READ LOW	Initial Reading on Installed Meter#. Utilized for Simple meter installation or retrofit or Low side of Compound meter.	FLOAT
NEW METER READ HIGH	Utilized only if Compound meter installation or retrofit occurs	
ATTACHMENTS	*Addresses under a separate process – See METER EXCHANGE PHOTOS (below)*	JSON Array
COMPONENT ID LOW	Communications Module. Utilized for Simple meter installation or retrofit or Low side of Compound meter.	
COMPONENT TYPE LOW	Communications Module. Utilized for Simple meter installation or retrofit or Low side of Compound meter.	
COMPONENT COMMENTS LOW	(Free Text). Utilized for Simple meter installation or retrofit or Low side of Compound meter.	nvarchar2(250)
COMPONENT ID HIGH	Utilized only if Compound meter installation or retrofit occurs	
COMPONENT TYPE HIGH	Utilized only if Compound meter installation or retrofit occurs	
COMPONENT COMMENTS HIGH	Utilized only if Compound meter installation or retrofit occurs	

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FIELD NAME	DESCRIPTION	TYPE/LENGTH
COMPONENT FIELD CONDITION	Details about installation of 500W such as: "Through Lid", "Under Lid" or "Wall Mount", "Basement", "Indoors"	20 alpha-numeric characters
METER BOX LID MATERIAL	Information about the material of the meter box lid such as: "Plastic", "Steel", "Cast iron", "Concrete", "Other"	20 alpha-numeric characters
REGISTER ID LOW	Register ID #. Utilized for Simple meter installation or retrofit or Low side of Compound meter.	
REGISTER TYPE LOW	Register Type Code. Utilized for Simple meter installation or retrofit or Low side of Compound meter.	
REGISTER COMMENTS LOW	(Free Text) . Utilized for Simple meter installation or retrofit or Low side of Compound meter.	nvarchar2(250)
REGISTER ID HIGH	Utilized only if Compound meter installation or retrofit occurs	
REGISTER TYPE HIGH	Utilized only if Compound meter installation or retrofit occurs	
REGISTER COMMENTS HIGH	Utilized only if Compound meter installation or retrofit occurs	
MTR LONGITUDE	Meter Location - NAD 1983 State Plane Texas South Central	X
MTR LATITUDE	Meter Location - NAD 1983 State Plane Texas South Central	Y
RECORD STATUS	If Processed by Batch	nvarchar2(20)
STATUS_DATE	Date that the Install was completed.	Remove, install, read dates, etc
ERROR_CODE	Interface- Record not Processed	nvarchar2(10)
ERROR_MSG	Interface- Record not Processed	nvarchar2(250)
SERVICES	List of additional tasks performed.	
FIELD OPT OUT	~~OPT OUT has been requested in the field; during the meter exchange. See 'AMI OPT OUT' BRD~~. Note: this field is no longer used as Opt Out is not allowed by SAWS.	nvarchar2(3)

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Meter Exchange Photos

During each meter and AMI communications module installation, the EPI Vendor will take multiple photos. Photos will be provided in a JSON format with the number of photos ranging from 6 to 10+ per installation depending on the scenario. Each photo will be imbedded with a naming convention that will identify the content of the photo. Photos will be provided during successful installations and during installation attempts that result in an exception (e.g. Returns to Utility).

The following illustrates JSON for photos captured during a successful installation:

```
[{
 "type": "Initial Meter Box Area",
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Old Meter",
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Old Register",
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "New Meter/Component",
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Old Meter Serial Number",
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "New Meter Setting",
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Water Flush",
```

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```
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Final Meter Box Area",
 "lat": 29.599533,
 "lng": -98.610152,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}]
```

The following illustrates JSON for photos captured during an installation where an Exception is encountered (number of photos depends on the point in the process where Exception identified):

```
[{
 "type": "Initial Meter Box Area",
 "lat": 29.424804,
 "lng": -98.488581,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Old Meter",
 "lat": 29.424804,
 "lng": -98.488581,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Old Register",
 "lat": 29.424804,
 "lng": -98.488581,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Exception - <Exception Reasons>",
 "lat": 29.424804,
 "lng": -98.488581,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}, {
 "type": "Final Meter Box Area",
 "lat": 29.424804,
 "lng": -98.488581,
 "time": "2020-12-07T12:10:28.045Z",
 "url": " https://..."
}]
```

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Following are the Exception reasons that might be included in the JSON:

Exception Reasons
Missing Valve
No Access
Leaking Valve
Leaking Pipe
Setting Leaking
No Meter
Locate
Done By Utility
Removed From List by Utility
Vacant
Customer Refused
Illegal Tap
Valve Broken – Inlet
Valve Broken – Outlet
Box Adjustment
Verified Non Respnsive
Commercial Meter
Meter Information Does Not Match
Safety Issue
Damaged Register
Material Hold
Return to Utility
Direct Connect
Parts
Customer Missed Appointment
Wrong Meter Size
Duplicate Address
Concrete/Asphalt
Rebuild
Wheelsetter
New Meter Installed
Cannot Be Installed