FINAL

COMMERCIAL & INDUSTRIAL AMI METER TESTING SUMMARY

PREPARED FOR

SaskPower

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1.0 Introduction

1.1 PURPOSE

This report provides a summary of the results of testing to determine the suitability of the Honeywell/Elster A3 Commercial and Industrial meter for use in SaskPower's power distribution system and AMI communication network.

1.2 TEST STATUS DASHBOARD

TEST CATEGORY	STATUS	NOTES
Acceptance Testing	GREEN	Complete
First Article Testing	GREEN	Complete
Technical Services & Research Testing	GREEN	Complete
Meter Farm Monitoring	GREEN	Complete
Vendor Testing	GREEN	Complete
Third-Party Testing	GREEN	Complete
Station Metering Monitoring	GREEN	Complete

2.0 Test Description

SaskPower has installed an AMI communication network across its service territory using the Sensus FlexNet communication network solution. This system is currently used to collect consumption data and event information from SaskEnergy gas meters deployed with Sensus FlexNet communication modules. It is anticipated that this same communication network will be used to read and monitor SaskPower electric meters. In order to approve and accept an electric meter type for use in its power distribution system, SaskPower has implemented a testing process to verify that the meter type meets established performance criteria.

These criteria entail:

1) Verification of safety, reliability and compliance to industry standards and the SaskPower specification;
2) Verification of device operation to specified capabilities; and
3) Verification of SaskPower required configuration.

To verify these performance criteria, SaskPower has established categories of testing scenarios to accommodate both laboratory and field activities, thus achieving a controlled environment setting in the laboratory, as well as experiencing SaskPower service territory conditions in the field.

These categories are identified as the following and described in more detail in the following sections:

- Acceptance Testing
- First Article Testing
- Technical Services & Research (TS&R) Testing
- Meter Farm Monitoring
- Vendor Testing
- Third-Party Testing
- Sample Testing
- Station Metering

The testing of the Honeywell/Elster A3 meter, in all of its physical variations intended for use at SaskPower, has been completed. All test results have been compliant with the specifications. Sample Testing is an ongoing process and will occur with each meter shipment receipt from the manufacturer.

2.1 ACCEPTANCE TESTING

SaskPower works closely with Sensus, as its AMI communication network provider, and the meter manufacturer to specify the meter type variations that SaskPower desires and associated physical and programming configuration. Honeywell/Elster is the meter manufacturer relative to this review. Typically a small sample of meters, usually a quantity from 4 to 8, is provided to SaskPower for testing. It is desired that these meters are manufactured using the manufacturer's standard operating procedures, and no special processes are introduced.

Acceptance Testing is a laboratory process. SaskPower uses the Acceptance Testing Process to:

1) Verify the meters were received as ordered, by reviewing configuration settings, labelling and required documentation;

2) Verify metrology and meter functionality, by confirming programming settings, checking measurement accuracy, and exercising some key functions;

3) Verify FlexNet communication functionality, by confirming appropriate configuration, consumption and event information is received over-the-air and processed properly by the AMI software collection system (i.e. RNI software);

4) Test meter operation at different temperatures to ensure continued accuracy of consumption, communication, and monitor for any unexpected operation whether safety or reliability related; and

5) Observe meter operation (Electric Meter Form 2S only) under hot socket conditions. This is performed in the TESCO Hot Socket Tester. This test replicates a loose connection or weak meter socket jaw.

2.2 FIRST ARTICLE TESTING

Once a new meter is accepted for use by SaskPower, or an approved change to an existing meter is implemented, a first article test is performed on a specified quantity of meters (typically 4 to 12 meters) from the first production run. SaskPower uses the First Article Testing process to:

1) Verify the meters were received as ordered, by reviewing configuration settings, labelling and required documentation;

2) Verify metrology and meter functionality, by confirming programming settings, checking measurement accuracy; and

3) Verify FlexNet communication network functionality, by confirming appropriate configuration.

If the First Article meters pass, the remainder of the order is shipped to SaskPower. If the meters do not pass, another quantity of 4 to 12 meters is shipped to SaskPower for verification. This process continues until identified issues are addressed and the meters pass this testing.

The verification performed in the three steps identified above is highly common and typical of utilities implementing AMI. New or changed meter types are often subjected to this verification as a step to ensure compatibility with the AMI system and functionality that meets the desired business outcome.

2.3 TECHNICAL SERVICES & RESEARCH (TS&R) TESTING

SaskPower has established a set of extreme electrical and environmental tests to subject the meter to conditions that meet or exceed those documented within the ANSI C12 standards, the draft version of the Underwriters Laboratories UL 2735C Standard for Electric Utility Meters for Canada and the SaskPower specification. These tests address aspects of temporary overcurrent, temporary overvoltage, and the effects of extreme temperature. A successful result is either no meter failure or a meter failure that occurs in a manner that is safe. This safe failure is one that does not cause injury or damage outside of the meter enclosure.

Testing for temporary overcurrent submits self-contained meters to current levels at 1.3 times the rating of the meter for two hours (i.e. 260A). Testing for temporary overvoltage submits meters to voltage levels, for one hour, at 2 times the nominal level of the service voltage that the meter's metrology will be subjected to in the SaskPower distribution system. Testing for extreme temperature is achieved by cycling the temperature multiple times between -50°C and +85°C and cycling the current between 0A and 200A over a 125-hour period.

2.4 METER FARM MONITORING

SaskPower has designed and constructed outdoor facilities to accommodate AMI meter testing and validation, known and identified as Meter Farms. Six meter farms have been constructed and are scattered across the SaskPower service territory, representing various environmental conditions that may be experienced.

The meter farms are located as follows:

- Regina – Building 11 RSC
- Saskatoon – Wolverine Switching Station
- Weyburn – Weyburn training yard
- Chaplin Switching Station
- Glaslyn Switching Station
- Tisdale Switching Station

The objectives of the meter farm include:

1) Long-term testing of functionality ensuring that the meters experience various seasons of the year and weather patterns;

2) Firmware download testing, supplementing laboratory testing, ensuring remote over-the-air updates successfully occur before pushing these updates to larger population of meters; and

3) Configuration download testing, supplementing laboratory testing, ensuring remote over-the-air updates successfully occur before pushing these updates to larger population of meters. Additionally, the meter farm accommodates the means to compare and contrast operation of a specific meter type but with differing firmware or configuration parameters.

2.5 VENDOR TESTING

Manufacturers of electricity meters for use in North America test their products to industry standards. These standards include ANSI C12.1 Electric Meters Code of Electricity Metering and ANSI C12.20 Electricity Meters – 0.2 and 0.5 Accuracy Class. Additionally, manufacturers are having their meters certified to Underwriters Laboratories UL 2735 Standard for Electric Utility Meters addressing electrical safety of meters rated up to 600V. The Honeywell/Elster A3 Commercial and Industrial meters comply with the Electricity and Gas Inspections Act and have a certificate of approval from Measurement Canada (Approval AE-1168).

2.6 THIRD-PARTY TESTING

SaskPower has defined third-party testing as a means to validate the compliance to the SaskPower specification. The testing required by SaskPower's specification is a combination of SaskPower specific and industry accepted testing protocols. This testing is performed by third-party test facilities under the direction of SaskPower.

2.7 SAMPLE TESTING

Once a meter type is accepted for use and shipments begin to be received, SaskPower pulls a quantity of sample meters from each shipment to determine whether the shipment shall be accepted for use, or rejected. The sample size is determined by industry practice of the use of ANSI/ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes. The validation criteria include: 1) physical condition of the packaging and product; 2) meter consumption accuracy; 3) proper labelling of the physical product; 4) proper version and configuration; and 5) indication of meter errors.

2.8 STATION METERING

The purpose of deploying these AMI meters on station metering sites is to provide the opportunity for long term testing and monitoring of electric meters in various environmental conditions around the province. In substations, the meters most often used are Form 2S self-contained meters as station service is typically a single phase 240V, 200A service. These sites are measuring the usage of each station, thus providing a real load for each meter to monitor.

Similar to Meter Farm Monitoring, station meters will support testing of communication with the AMI Head End system (i.e. the Sensus FlexNet software application for meter data collection). They will be used to test firmware and configuration updates as well as verifying that reads, alarms, and service conditions are being communicated to the AMI Head End system. These meters will be used to test and verify any system wide firmware upgrade or configuration changes. The meters may be used for ad hoc or targeted testing as required. These meters will be added to the billing system as an E99 rate code to ensure that usage is tracked in the billing system, but generate a bill for $0.

3.0 Test Assessment

SaskPower's testing process for electric meters is rigorous. The goal of this process is to achieve a safe, reliable and functional product for use on its power distribution network and throughout its service territory. SaskPower's testing process addresses industry standards compliance, functional specification compliance, as well as service territory environmental condition observation. In many instances, SaskPower has instituted industry best practice. In others, especially in the areas of testing performed at SaskPower's TS&R facility and standards compliance, SaskPower has chosen to replicate specific tests to provide additional validation, or exceed typical product specifications to ensure safe and reliable operation throughout and under the conditions likely experienced in its service territory. The table below provides the results of a comparison of SaskPower's meter testing protocol to industry best practice in North America.

Test Category	SaskPower vs Industry Benchmark	Comments
Acceptance Testing	**Exceed**	SaskPower meets industry best practice for verification of meter type functionality. SaskPower exceeds industry best practice for verification of meter operation under temperature and hot socket conditions.
First Article Testing	**Meet**	SaskPower meets industry best practice for verification of meter type configuration and functionality of a newly manufactured or changed meter type.
TS&R Testing	**Exceed**	SaskPower exceeds industry best practice for verification of meter type compliance to industry standards by internally replicating critical tests. Many utilities rely solely on the testing performed by, or at the direction, of the meter manufacturer. SaskPower exceeds industry best practice for verification of meter type operation under extreme temperature conditions. Most meter types are specified for operation to -40C. SaskPower extends that testing to -50C to match conditions that may be experienced within its service territory.
Meter Farm Monitoring	**Exceed**	SaskPower meets industry best practice for functional use of the meter farm concept. It is worthy to note that SaskPower tends to be in the minority in establishing a meter farm, as many utilities have not established these facilities. SaskPower exceeds industry best practice in regards to constructing multiple meter farms with the objective of representing the differing environmental conditions that occur within its service territory. Those utilities that have constructed a meter farm tend to settle on one such facility within their territory.
Vendor Testing	**Meet**	SaskPower meets industry best practice for vendor testing. It is required for vendor's to test their products to industry established

		standards, such as ANSI.
Third-Party Testing	**Exceed**	SaskPower exceeds industry best practice as it is common for utilities to review and accept compliance testing performed by or at the direction of the meter manufacturer.
Sample Testing	**Meet**	SaskPower meets industry best practice for sample testing. It is common for utilities to perform similar sample testing as defined above.
Station Metering	**Meet**	SaskPower meets industry best practice for station metering. It is common for utilities to install new metering on company locations as part of the testing protocol.

4.0 Test Results

Eighteen unique meter configurations, identified by an assigned SaskPower meter stock code, have been defined to represent the required Commercial and Industrial meter population. These meter stock codes are listed below. The Honeywell/Elster A3 Commercial and Industrial meter is being considered for each of these meter stock codes. The sections below describe the status and result of the various testing categories for each of these meter stock codes. In some cases, all meter stock codes have undergone the testing within a category. In others, only some of the meter stock codes have been tested within a category. In certain instances, this is on purpose, such that it has been determined that either one or a limited number of meter stock codes is representative of all meters for a particular test. The details in the sections below will identify these conditions.

Stock Code	Form	Amps	Bi-dir	Phase	KYZ Output
AM25931M	2S	2 - 200	Y	1Ø	
AM31921M	3S	0.2 - 20		1Ø	
AM31933M	35S	0.2 - 20		3Ø	
AM31933N	35S	0.2 - 20		3Ø	Y
AM31943M	36S	0.2 - 20		3Ø	
AM31943N	36S	0.2 - 20		3Ø	Y
AM31953M	9S	0.2 - 20		3Ø	
AM31953N	9S	0.2 - 20		3Ø	Y
AM35931M	2S	2 - 200		1Ø	
AM35931N	2S	2 - 200		1Ø	Y
AM35953M	16S	2 - 200		3Ø	
AM35953N	16S	2 - 200		3Ø	Y
AM51921M	3S	0.2 - 20	Y	1Ø	

AM51933M	35s	0.2 - 20	Y	3Ø	
AM51933N	35s	0.2 - 20	Y	3Ø	Y
AM51953M	9s	0.2 - 20	Y	3Ø	
AM51953N	9s	0.2 - 20	Y	3Ø	Y
AM55953M	16S	2 - 200	Y	3Ø	

4.1 ACCEPTANCE TESTING

Test Result Summary: Acceptance testing for all meter stock codes has been completed. Based upon the results, the meters will function as expected. No safety related issues were identified. The meters were received as expected. They were configured and labelled appropriately. In regards to device functionality a few issues were identified. One was an anomaly regarding how the meter should work in regards to indicating a brownout event but at the same time receiving a high voltage indication. The vendor, Sensus, has indicated this is operating as designed to ensure the notification of event is communicated to the AMI Head End software system. Another is the inability to disable the reverse energy indication on non-net metering devices. Once triggered, the reverse energy indication will be present until a demand reset is performed. This is an anomaly in the meter firmware that should be corrected, but not considered critical to restrict its use by SaskPower. The meter module tracks Click Counts which indicate a momentary outage. Click Counts should only increment. Testing has shown that these Click Counts may decrement. When using Click Counts for event analysis, they must be carefully examined to determine whether they have changed. This is functionality not used by SaskPower, but the vendor has been informed of the identified issue. During hot socket testing, the presence of smoke did occur and damage to the tested meters resulted in minor deformation and discoloration of the internal plastic components. However, no uncontained unsafe failure resulted. The meter indicated and communicated an alarm as expected. Meters representing all meter forms have been tested in accordance with Acceptance Testing requirements for accuracy and ambient temperature variation between -50°C and +85°C. None of the issues above represent a safety concern and all are minor and can be managed.

4.2 FIRST ARTICLE TESTING

Test Result Summary: The testing included a check for meter accuracy and for proper configuration and communication. All testing was performed by the SaskPower meter shop. All tests resulted in the meters being compliant with anticipated accuracy, as well as the expected configuration and communication.

4.3 TECHNICAL SERVICES & RESEARCH TESTING

Test Result Summary: TS&R Testing, including Temporary Overcurrent, Temporary Overvoltage and Extreme Temperature testing, is complete.

Temporary Overcurrent was performed on self-contained 200 amp class 16S and 2S meters. A current of 260 amps, along with nominal voltage, was applied to these meters. These meters are rated at 200 amps. No unsafe conditions of failure

resulted.

The testing protocol for Temporary Overvoltage has evolved. The initial tests were performed at voltage levels double the nameplate rating of the meter, reaching levels of 960V, and producing varying results. The decision was made to test meters at voltage levels double the nominal voltage level of the service voltage that the meter will be subjected to in the SaskPower distribution system, such as a test voltage of 554V on a meter designed for 277V service. This decision was based upon input provided by operations entities within SaskPower regarding voltage levels experienced on the SaskPower distribution system. Fifteen meters, representing five meter forms, have been tested under these criteria. All fifteen meters passed the test without failure.

Extreme Temperature testing was completed on a Form 16S self-contained Class 200 meter, a Form 35S transformer-rated Class 20 meter and a Form 3S transformer-rated Class 20 meter. No unsafe conditions of failure resulted.

Below is a table detailing the current status of this testing:

Test	Meter Form	Voltage Rating	Service	Type	Status	Result
Over Current	16S; 7-Jaw	120V-277V	277/480V Y 240V Δ	Self-Contained	Complete	Pass
Over Current	16S; 7-jaw	120V-277V	277/480V Y 240V Δ	Self-Contained	Complete	Pass
Over Current	2S; 4-jaw	120V-240V	240V 1-Ø (480V 1-Ø)	Self-Contained	Complete	Pass
Temperature	16S; 7-Jaw	120V-277V	277/480V Y 240V Δ	Self-Contained	Complete	Pass
Temperature	35S; 8-Jaw	120V-277V	277/480V Y 240V Δ	X-former Rated	Complete	Pass
Temperature	3S; 5-Jaw	120V-240V	240V 1-Ø	X-former Rated	Complete	Pass
Over Voltage	2S; 4-jaw	120V-240V	240V 1-Ø (480V 1-Ø)	Self-Contained	Complete	Qualified at 240V Tested at 480V
Over Voltage	2S; 4-jaw	120V-240V	240V 1-Ø (480V 1-Ø)	Self-Contained	Complete	Qualified at 240V Tested at 480V
Over Voltage	2S; 4-jaw	120V-240V	240V 1-Ø (480V 1-Ø)	Self-Contained	Complete	Qualified at 240V Tested at

						480V
Over Voltage	3S; 5-jaw	120V-240V	240V 1-Ø	X-former Rated	Complete	Qualified at 240V Tested at 480V
Over Voltage	3S; 5-jaw	120V-240V	240V 1-Ø	X-former Rated	Complete	Qualified at 240V Tested at 480V
Over Voltage	3S; 5-jaw	120V-240V	240V 1-Ø	X-former Rated	Complete	Qualified at 240V Tested at 480V
Over Voltage	9S; 13-jaw	120V-277V	277/480V Y 240V Δ	X-former Rated	Complete	Qualified at 277V/480V Tested at 554V
Over Voltage	9S; 13-jaw	120V-277V	277/480V Y 240V Δ	X-former Rated	Complete	Qualified at 277V/480V Tested at 554V
Over Voltage	9S; 13-jaw	120V-277V	277/480V Y 240V Δ	X-former Rated	Complete	Qualified at 277V/480V Tested at 554V
Over Voltage	35S; 8-jaw	120V-277V	277/480V Y 240V Δ	X-former Rated	Complete	Qualified at 277V/480V Tested at 554V
Over Voltage	35S; 8-jaw	120V-277V	277/480V Y 240V Δ	X-former Rated	Complete	Qualified at 277V/480V Tested at 554V
Over Voltage	35S; 8-jaw	120V-277V	277/480V Y 240V Δ	X-former Rated	Complete	Qualified at 277V/480V Tested at 554V
Over Voltage	16S; 7-jaw	120V-277V	277/480V Y 240V Δ	Self-Contained	Complete	Qualified at 277V/480V

						Tested at 554V
Over Voltage	16S; 7-jaw	120V-277V	277/480V Y 240V Δ	Self-Contained	Complete	Qualified at 277V/480V Tested at 554V
Over Voltage	16S; 7-jaw	120V-277V	277/480V Y 240V Δ	Self-Contained	Complete	Qualified at 277V/480V Tested at 554V

The Form 2S meter was found to be unsuitable for 480V services, and the Form 16S is not suitable for 347V/600V services. Therefore, the Honeywell/Elster A3 Form 2S meter is qualified for 240V service and the Form 16S meter is qualified for 277V/480V service and below.

4.4 METER FARM MONITORING

A total quantity of one-hundred twenty Honeywell/Elster Commercial and Industrial meters has been installed and operating in the six meter farms located throughout the province. These meters are monitored remotely by AMI Operations. Alarms and alerts from these meters are communicated through the network to the AMI Head End software system. AMI Operations performs the initial analysis of any received information. Additionally, AMI Operations proactively retrieves information from each meter every two weeks to validate the recording of any alarms and alerts, as well as ensuring that reliable communication continues. The meters are visited and visually inspected every quarter of the year.

No safety issues or concerns have been identified from any meter being monitored in any one of the meter farms. The only item of note is in regards to clouding of the meter cover which occurred on meters at both Weyburn and Regina. This issue has been acknowledged by the manufacturer and determined to be associated with meters built between August 31, 2013 and February 28, 2015. The SaskPower meters were manufactured during this time period.

4.5 VENDOR TESTING

Honeywell/Elster, the meter manufacturer, and Sensus, the AMI network technology provider, have both tested the Honeywell/Elster A3 Commercial and Industrial meter for ANSI standard compliance. Honeywell/Elster has performed the full suite of testing within ANSI C12.1 Electric Meters Code of Electricity Metering and ANSI C12.20 Electricity Meters – 0.2 Accuracy Class. Sensus has performed a subset of the ANSI C12.1 Electric Meters Code of Electricity Metering tests. The results of the

testing verified compliance to the standards. Honeywell/Elster is in process of having its meters UL certified to UL 2735. Eleven of the eighteen eligible meter stock codes, all but KYZ meter types, have been UL certified.

4.6 THIRD-PARTY TESTING

MET Laboratories, Inc., headquartered in Baltimore, Maryland, has been contracted to perform the third-party testing as defined by SaskPower. Forty-six tests have been identified for completion. SaskPower is providing more than eighty meters, representing the various SaskPower meter stock codes, to perform this testing. All tests completed have resulted in compliance with the test specification.

NOTE: The table has forty-six line items representing the tests performed. However, it should be noted that there are test numbers in the sequence that are missing.

The following test numbers were purposely not included in the list of tests to be completed by the third-party.

TEST #	TEST NAME	REASON FOR EXCLUSION
Test 10	Effect of Register Friction	Not applicable to solid state meters
Test 12	Effect of Tilt	Not applicable to solid state meters
Test 22	Effect of Superimposed Signals	Per ANSI, no longer applicable for any meter type
Test 39	UL2735 – entire Standard	Performed in Vendor Testing
Test 43	Extended Overvoltage Test	Performed by SaskPower TS&R

Test List	Standard of Reference	Status
1 - No load	C12.20	Compliant
2 - Starting amps (if run separately)	C12.20	Compliant
3 - Load Performance	C12.20	Compliant
4 - Variation of Power Factor	C12.20	Compliant
5 - Variation of Voltage	C12.20	Compliant
6 - Variation of Frequency	C12.20	Compliant
7 - Equality of Current Circuits	C12.20	Compliant
8 - Internal meter losses	C12.20	Compliant
9 - Temperature rise	C12.20	Compliant
11 - Effect of internal heating	C12.20	Compliant
13 - Stability of performance	C12.20	Compliant
14 - Effect of Polyphase Loading	C12.20	Compliant
15 - Insulation ***	SaskPower 4.4	Compliant
16 - Voltage interruptions ***	SaskPower 4.2	Compliant
17 - High voltage line surges ***	C12.20	Compliant
18 - Effect of external magnetic field	C12.20	Compliant
19 - Variation of ambient temperature	SaskPower 4.12	Compliant
20 - Temporary overloads (self-contained) (UnP)	C12.20	Compliant
21 - Current surge in ground conductor (UnP)	C12.20	Compliant
23 - Voltage variation on secondary time base	C12.1	Compliant
24 - Temperature variation secondary time base	C12.1	Compliant
25 - Electrical fast transient/burst (801) ***	C12.20	Compliant
25A - Surge Withstand Capability ***	C12.20	Compliant
25 - Electrical fast transient/burst (802) ***	C12.20	Compliant
26 - Effect of radio frequency interference	C12.20	Compliant
27 - Radio frequency conducted	SaskPower 4.7	Compliant
27 - Radio frequency radiated	SaskPower 4.7	Compliant
28 - ESD ***	C12.1	Compliant
29 - Effect of storage temperature	SaskPower 4.11	Compliant
30 - Effect of operating temperature ***	SaskPower 4.11	Compliant
31 - Effect of relative humidity ***	SaskPower 4.10	Compliant
32 - Mechanical shock (UnP)	C12.20	Compliant
33 - Transportation drop (UnP)	C12.20	Compliant
34 - Mechanical Vibration (UnP)	C12.20	Compliant
35 - Transportation vibration (UnP)	C12.20	Compliant
36 - Weather simulation (UnP)	SaskPower 4.14	Compliant
37 - Salt spray (UnP)	C12.20	Compliant
38 - Raintightness (UnP)	C12.20	Compliant
40 - IEC 61000 4-13 High Freq. EMC. Harmonics	SaskPower Section 4.5	Compliant
41 - IEC 61000 4-6 High Freq. EMC. Immunity to conducted disturbances induced by RF	SaskPower Section 4.6	Compliant
42 - IEC 60529 Degrees of Protection provided by Enclosure (IP)	SaskPower Section 4.8, 4.9	Compliant
44 - High Temperature Alarm Testing	SaskPower Section 4.3	Compliant
45 - Extreme Low Temperture Soak Test	SaskPower Section 4.13	Compliant
46 - Meter Exchange Test	SaskPower Section 4.15	Compliant
47 - Meter Hanger Test	SaskPower Section 4.16	Compliant
48 - Combination Test	SaskPower Section 4.17	Compliant

4.7 SAMPLE TESTING

Sample Testing is an ongoing process and will be performed on every meter shipment received. To date, meters pulled for sample testing have complied with meter accuracy, physical labeling and condition, and meter configuration and versioning expectations.

4.8 STATION METERING

AMI meters have been installed in 100 substations throughout the province. These meters are being monitored remotely by AMI Operations. Alarms and alerts from these meters are communicated through the network to the AMI Head End software system. AMI Operations

performs the initial analysis of any received information. AMI Operations will proactively retrieve information from each meter periodically to validate the recording of any alarms and alerts, as well as ensure that reliable communication continues.

5.0 Summary

SaskPower has defined a series of tests to validate that the Commercial and Industrial meter provides safe and reliable operation for use in its power distribution system. This testing provides several levels of assessment using vendor, third-party, as well as SaskPower-led validation. The process leverages industry best-practice, purpose-specific testing to SaskPower anticipated environmental conditions, along with purpose-specific testing to determine the mode of failure of the meter under specified conditions. All tests have been completed resulting in compliance with the specification.