

**STATE OF IOWA**  
**BEFORE THE IOWA UTILITIES BOARD**

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<b>IN RE:</b>  <b>INTERSTATE POWER AND LIGHT COMPANY</b>	<b>DOCKET NO. WRU-2017-____ - 0150</b>
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**REQUEST FOR TEMPORARY WAIVER**

COMES NOW, Interstate Power and Light Company (IPL or the Company), and pursuant to 199 Iowa Administrative Code (IAC) 1.3, respectfully requests that the Iowa Utilities Board (Board) grant, on an expedited basis by March 31, 2017, a temporary waiver of certain electric meter testing and analysis requirements of 199 IAC chapter 20; certain sections of the Rules and Regulations of IPL's Electric Tariff, Original Tariff No. 1 (Electric Tariff); and IPL's Electric Metering and Testing Services (EMTS) Control Procedure 106 (Testing Procedure).

IPL seeks the Board's expedited approval of IPL's request for a waiver of the foregoing requirements while IPL implements, over the next three calendar years, a comprehensive Advanced Meter Infrastructure (AMI) program, which IPL refers to as the AMI Plan, for the benefit of IPL's customers throughout its service territory. As part of that Plan, IPL will replace all electric meters for all of its residential and small commercial customers, including meter lots due for replacement under IPL's Testing Procedure, with new meter technology as part of an advanced metering infrastructure and communications network. Among other benefits, IPL's AMI Plan will allow IPL to quickly identify and respond to power outages, reduce the need for estimated bills due

to no-reads, enhance the reliability of IPL's energy distribution system, and facilitate the integration of new technologies into the grid, including distributed generation, demand response, and automated grid technology. In addition, the AMI Plan will address residential and small commercial electric meters that IPL has determined are or may be due for replacement under the Testing Procedure. In short, the AMI Plan will cost-effectively accelerate the modernization of IPL's customer service and energy delivery systems.

IPL anticipates the AMI meter replacement and installation phase of the AMI Plan for residential and small commercial meters to occur during 2017 and 2018, with the meter communications network expected to be operational by mid-2019. As such, IPL's expedited waiver request is limited to the 2017, 2018, and 2019 calendar years in which IPL will implement and begin operating the AMI system. If the temporary waiver from certain electric meter testing requirements is granted for that limited time period, IPL will avoid the unnecessary burden and cost of testing existing meters as it moves forward to replace those meters with advanced technology and communications infrastructure. In support of this request, IPL states as follows:

#### **I. IPL'S AMI PLAN**

1. IPL has, in recent years, been evaluating the merits of implementing an AMI program in its Iowa service territory.<sup>1</sup> Through development of its most recent annual operating plan, IPL determined that AMI will provide substantial value and

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<sup>1</sup> See, e.g., Direct Testimony of IPL Witness Erik C. Madsen, *In re: Interstate Power and Light Co.*, Board Docket No. RPU-2009-0002, March 17, 2009, at 14-20 (explaining IPL's AMI planning and the benefits of the technology); Final Report, Affiliate and Management Audit of Interstate Power and Light Company, Public Version, *In re: Interstate Power and Light Co.*, Board Docket No. INU-2011-0001, September 27, 2012, at p.VIII-17 (audit report recommending that IPL pursue AMI).

functionality to the benefit of its customers when compared to the current metering infrastructure in IPL's service territory. Specifically, IPL anticipates that AMI will, among other benefits:

- Reduce outage response time for customers by providing automatic notification of customer-specific power outages to the Distribution Dispatch Center;
- Allow IPL to remotely connect new customers to IPL's distribution system, reducing the time and cost of such connections;
- Ensure that up to 99.5% of meters can be read remotely in real-time, increasing the number of actual meter readings and reducing the number of estimated bills each month;
- Enhance the reliability of IPL's energy distribution system and facilitate new technologies like distributed generation, demand response, and automation into the grid; and
- Enable IPL to expand and enhance future tariff and product offerings for its customers through increased data collection efforts.

In short, the AMI Plan will cost-effectively allow IPL to provide customers with more choices and to better serve them on a continuous basis, including during significant events such as storms.

2. As part of its AMI Plan, IPL will begin replacing all residential and small commercial electric meters with AMI-capable meters, with replacements expected to be completed by the end of 2018.<sup>2</sup> These new meters will begin operating immediately

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<sup>2</sup> IPL plans to replace all large industrial electric meters and install AMI communication modules on all gas meters beginning on January 1, 2018. Further, since installation of the AMI communication modules for gas meters does not require replacement of any gas meters, IPL will continue to follow the applicable

and will be read manually until they are connected to the AMI communications network, which will be gradually phased in and fully operational in mid-2019. In total, between mid-2017 and mid-2019, IPL will install an AMI system for approximately 470,000 electric meters and on 230,000 gas meters.

3. To facilitate its AMI deployment, IPL seeks a waiver of certain Board rules, IPL tariffs, and procedures associated with testing and replacing residential and small commercial electric meters. Specifically, the Board's regulations at 199 IAC 20.6 (Metering) require that each utility develop a written program for inspection and testing of its electric meters to determine the necessity for adjustment, replacement and repair. 199 IAC 20.6(1). The program must address, among other things, testing of in-service meters "by periodic tests at specified intervals or on the basis of a statistical sampling plan, but shall include meters removed from service for any reason." 199 IAC 20.6(2)c. Accordingly, IPL has adopted the Testing Procedure, which includes requirements for the inspection, statistical testing and analysis, adjustment and retirement of electric meters in accordance with accepted good practice.<sup>3</sup> The Testing Procedure is attached to this request as Attachment A (IPL Waiver Request Attachment A).

4. Under the Testing Procedure, IPL samples statistical "lots" of residential and small commercial meters, which are formed by creating test groups of similar meters (*e.g.*, same or similar manufacturer, technology, vintage, etc.). A random

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testing and replacement procedures for its gas meters. As such, IPL is not seeking a waiver from those gas meter testing requirements with this waiver request.

<sup>3</sup> The Test Procedure references IUB regulations at Chapter 20 and is applied by IPL in accordance with American National Standard Code for Electricity Metering, ANSI C12.1-2008, which the Board considers to be "representative of accepted good practice in matters of metering and meter testing." 199 IAC 20.6(1) and (3).

selection of a subset of meters from each lot is auto-generated. The meters included in that random subset are then physically removed from their premises and brought to IPL's electric meter shop to be tested for accuracy.

5. A lot "fails" the meter testing when a statistically significant number of meters within the test group are outside the required plus or minus two percent (+/- 2%) accuracy threshold specified in the Board's rules and applicable testing standards. See *e.g.*, 199 IAC 20.6(3) (identifying testing standards as accepted good practice); 199 IAC 20.4(14)a. If a lot does not pass the statistical accuracy test, the Testing Procedure provides that additional targeted analysis can be performed to divide the lot into smaller lots to pinpoint the problem meters. However, if a tested lot does not pass the statistical analysis twice in a five-year period, IPL's Testing Procedure provides that the entire lot must be removed from service within four years of the second failure.<sup>4</sup> Consistent with 199 IAC 20.2(5)d, IPL compiles on a monthly basis records of any meter tests and submits them to the Board each April 1, along with the Annual Report required under IUB regulations.

6. IPL's Electric Tariff at Section 10.09 (Rules and Regulations) requires IPL to follow the Testing Procedure developed in accordance with the Board's regulations at 199 IAC 20.6. Further, Section 10.09A of the Electric Tariff requires that a "meter removed from a customer's premises will be inspected and tested before it is again placed in service." Electric Tariff Section 10.09A (Rules and Regulations). In addition,

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<sup>4</sup> The "two failure/five year period" meter removal frequency in the Testing Procedure is based on Public Service Commission of Wisconsin meter testing regulations, specifically Wis. Admin Code § PSC 113.0921. The Wisconsin code provisions are reflected in IPL's Testing Procedure as accepted best practice for governing the timing of existing meter replacements.

Section 10.09A further requires that “[m]eters and associated devices will be tested within 120 days after they are removed from service. The tests will be made before the meters and associated devices are adjusted, repaired, and returned to service, or retired.” (*Id.*)

7. A targeted and temporary waiver from the foregoing meter testing requirements is necessary to help IPL control customer costs while it implements its AMI Plan. Specifically, if the Board grants the requested waiver, IPL will avoid the unnecessary expense of testing all 470,000 removed electrical meters that will be replaced within the next two years under the AMI Plan, where such testing would otherwise be required under a literal application of 199 IAC 20.6(2)c. Further, IPL would avoid the needless burden of having to continue to periodically sample, test, and statistically analyze meter lots that will, in any event, be replaced under the AMI Plan with upgraded technology regardless of the results of the testing or statistical analysis. These testing costs are significant. IPL estimates that testing all 470,000 removed electric meters would cost approximately \$1.5 million, with no discernible benefit to the vast majority of IPL’s customers. A waiver from these testing requirements would avoid those unnecessary costs and burdens while focusing resources on effective deployment of AMI in IPL’s service territory.

8. To address any concerns about the accuracy of existing meters prior to replacement under the AMI Plan, IPL will hold all electric meters for 120 days from the date of removal so that meters will be available for testing in response to customer

inquiries.<sup>5</sup> In the exceedingly rare instance in which a test in response to a customer inquiry indicates that a meter has over-registered, IPL will reimburse that customer as required by IUB rules and Section 7.18 of IPL's Electric Tariff.<sup>6</sup> IPL will continue to test all electric meters removed from service for reasons independent of and unrelated to the AMI Plan.

9. In sum, a temporary, limited waiver from meter testing requirements would benefit IPL's customers by allowing IPL to: 1) avoid the unnecessary expense of testing all meters that will be removed and replaced under the AMI Plan; 2) replace those meters through the AMI Plan's comprehensive program rather on a piecemeal basis under the historic periodic sampling and testing program; and 3) replace them with advanced technology that provides a platform for enhanced customer service and grid operations.<sup>7</sup>

## **II. EXISTING ELECTRIC METERS DUE FOR REPLACEMENT**

10. In addition to improving grid operations, reducing outage response times, and limiting the need for estimated bills, the AMI Plan will also allow IPL to comprehensively and quickly address a significant number of residential and small commercial electric meters that are or will be due for replacement under IPL's Test Procedure within the next four years.

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<sup>5</sup> If there is a customer inquiry, IPL will retain the meter until the inquiry is resolved, which may be longer than 120 days.

<sup>6</sup> Out of 76,036 meters tested for any reason in calendar years 2013, 2014, 2015, and 2016, just 206, or 0.27%, over-registered during that time period.

<sup>7</sup> IPL plans to install AMI for gas meters on the same accelerated schedule as the AMI electric meter installation, which can achieve further savings for IPL's customers.

11. During 2016, IPL's statistical sampling process under the Testing Procedure resulted in the testing of approximately 3,000 electric meters. Out of the approximately 3,000 meters in the statistical sample, 56 provided results outside of the required range of accuracy. The majority (47) were "slow" meters, (*i.e.*, they under-registered the amount of electricity used by the customer), while nine were "fast" meters (*i.e.*, they over-registered the amount of electricity used). According to its practice, IPL either fixed or removed each of those meters from service and then provided customers with tested and cleared replacement meters. For the tested meters that over-registered the amount of electricity used, IPL has reimbursed those customers in accordance with IUB rules.<sup>8</sup>

12. Beginning in 2016, IPL began using an automated process through its new Customer Care and Billing (CC&B) system to perform the statistical analysis of meter testing results pursuant to the Testing Procedure. The CC&B statistical analysis of the 2016 meter test results indicated that a statistically significant number of meters within 13 meter lots (approximately 96,000 meters) were operating outside the required range of accuracy.

13. To better understand the 2016 statistical analysis results, IPL reviewed meter test results for 2014 and 2015 that were reported as part of IPL's Annual Report to the Board under 199 IAC 20.2(5)d. IPL determined that while the meter selection, testing, removal and replacement had been conducted in accordance with the Testing

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<sup>8</sup> Although IPL's practice, consistent with Section 7.18C of its Electric Tariff, has been to seek reimbursement where the under-registration equals or exceeds \$100.00, for purposes of this waiver request IPL does not intend to seek any reimbursement from customers for those meters that may under-register during the term of the waiver, in part because IPL does not propose to test removed meters during AMI implementation.



Procedure, the statistical analysis of the test results had not been performed for those years. Using the CC&B analysis protocol, IPL then retroactively applied the statistical function to the 2014 and 2015 meter test results. Results indicated that a statistically significant number of meters within an additional eight (8) meter lots, representing approximately 131,000 meters, were operating outside the required range of accuracy.

14. In total, analysis of the 2014, 2015, and 2016 test results indicated that a statistically significant number of meters within 21 lots, representing 227,000 of IPL's 470,000 electric meters, did not meet the required accuracy limits. Importantly, this does not mean that each and every one of the meters in those lots is operating outside of the required range of accuracy; it is likely to be fewer. However, based on available information, IPL is conservatively concluding that these meters may be due for replacement within the four year replacement period in IPL's Testing Procedure.

15. Given IPL's existing plans to move forward with AMI in its service territory, IPL has determined that the most prudent course of action is to replace these meters through an accelerated AMI deployment schedule, beginning in mid-2017. Doing so provides a comprehensive solution that aligns with IPL's existing plans to improve its energy delivery infrastructure.

16. Board staff and the Office of Consumer Advocate (OCA), a division of the Iowa Department of Justice, have been advised of the basis of this request and IPL's proposed AMI Plan as a solution to the recent statistical meter analysis results. IPL will periodically update the Board and OCA on its progress in implementing the AMI Plan.<sup>9</sup> In addition, as IPL implements the AMI Plan on a rolling basis throughout its service

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<sup>9</sup> IPL intends to seek recovery of its investment in the AMI Plan in future rate cases after the AMI assets are in service, and proposes to further support the prudence of its AMI Plan in that forum.

territory, IPL will employ a communications strategy to ensure timely notification of customers of upcoming meter change-outs and will work diligently to avoid and minimize any customer inconvenience during AMI implementation.

### **III. WAIVER REQUEST**

17. IPL's request for a limited, temporary waiver is intended to facilitate IPL's existing efforts to implement the AMI Plan for the benefit of its customers. This proposed solution resolves the foregoing electric meter testing and analysis issues and offers greater benefits for IPL's customers than attempting to address electric meter replacements on a lot-by-lot basis. The specific rules and Electric Tariff provisions for which IPL seeks a waiver are identified below.

#### **Waiver Request – Electric Meter Testing and Replacement Obligation**

18. To facilitate accelerated deployment of its AMI Plan, IPL seeks temporary waiver of 199 IAC sections 20.6(1), (2), and (7); Sections 10.09, and 10.09A of its Electric Tariff; and IPL's Testing Procedure, all as they apply to in-service small commercial and residential meters. The requirements of the relevant regulations, tariff provisions, and the Testing Procedure are summarized below.

19. IPL requests that the term of the waiver encompass calendar years 2017, 2018, and 2019, ending on December 31, 2019 (*hereinafter*, the Waiver Term), which is the end of the calendar year in which the AMI system is expected to be fully deployed and operational under the AMI Plan.

20. Specifically, during the Waiver Term, IPL seeks complete relief from the following requirements:

- The Board's regulation at 199 IAC 20.6(2)c, which provides for the "[t]esting of in-service meters, including any associated instruments or corrective devices, for accuracy, adjustments, or repairs" which "may be accomplished by periodic tests at specified intervals or on the basis of a statistical sampling plan, but shall include meters removed from service for any reason."
- The Board's regulation at 199 IAC 20.6(7), which provides, in relevant part, that "[n]o meter that is known to be mechanically or electrically defective, or to have incorrect constants, or that has been tested and adjusted if necessary in accordance with the rules shall be ... continued in service."
- IPL's Electric Tariff, Rules and Regulations Section 10.09 which requires IPL to follow the Testing Procedure as provided under 199 IAC 20.6.
- IPL's Electric Tariff, Rules and Regulations Section 10.09A, which requires, in relevant part, that a "meter removed from a customer's premises will be inspected and tested before it is again placed in service. Meters and associated devices will be tested within 120 days after they are removed from service. The tests will be made before the meters and associated devices are ... retired."
- The Testing Procedure attached as Exhibit A to this request, which, in sum, requires statistical sampling, testing, and analysis of certain types of electric meters, as well as the procedure for replacement of those electric meters consistent with the Board's regulations and IPL's Electric Tariff.

21. During the Waiver Term, IPL will hold all electric meters for 120 days from the date of removal so that meters will be available for testing in response to customer

inquiries. In response to any inquiries, IPL will continue to reimburse customers for any over-registered meters as required by IUB rules and Section 7.18 of IPL's Electric Tariff. And, IPL will continue to test all electric meters removed from service for reasons independent of and unrelated to the AMI Plan. Finally, during the Waiver Term, IPL will test all meters upon request in accordance with the Board's rules.

22. Waiver of the rules, related portions of the Electric Tariff, and the Testing Procedure applicable to IPL's residential and small commercial electric meters will help limit costs and provide needed certainty to IPL as it moves forward with its AMI Plan to replace all such meters by end of 2018 and to achieve full deployment of an AMI communications network by mid-2019.

#### **IV. DISCUSSION**

23. Pursuant to 199 IAC 1.3, the Board may grant a waiver from its rules, as applied to a specific set of circumstances, when:

- Application of the rule would pose an undue hardship on the person for whom the waiver is requested;
- The waiver would not prejudice the substantial legal rights of any person;
- The provisions of the rule subject to a petition for waiver are not specifically mandated by statute or another provision of law; and
- Substantially equal protection of public health, safety, and welfare will be afforded by a means other than that prescribed in the rule for which the waiver is requested.

IPL's waiver request for its AMI Plan satisfies each of the required elements above.

24. **Application of the rule, absent a waiver, would pose an undue hardship.** In the absence of temporary waiver requested, IPL would simultaneously be statistically testing 470,000 electric meters – the entire residential and small commercial meter fleet – while replacing that same set of meters within approximately two years with new AMI meters in accordance with IPL’s AMI Plan. In addition to periodic statistical testing, IPL would also be required to test all meters removed as part of the AMI Plan. In the absence of a waiver, IPL estimates that testing all 470,000 removed meters would cost approximately \$1.5 million, even though those meters would soon be replaced regardless of the test results. This burdensome effort would add little if any value to IPL or its customers, and may harm customers through the inefficient use of IPL’s resources.

25. **The waiver would not prejudice the substantial legal rights of any person.** IPL will timely replace its entire fleet of existing electric meters that are subject to statistical testing on an accelerated basis, providing value to all of its residential and small commercial customers. Further, while it is conceivable that during the AMI implementation period an existing in-service meter may malfunction before it is replaced, IPL’s waiver request builds in safeguards to address that circumstance.

Specifically:

- First, the accelerated deployment schedule helps minimize the likelihood of an existing electric meter failure that results in the need for replacement under the Testing Procedure before it is replaced under the AMI Plan.
- Second, IPL will hold all removed electric meters for at least 120 days so that they may be tested in the event that IPL receives a customer inquiry. Based

on any such tests, IPL will continue to reimburse customers in the instance of an over-registered electric meter, as required by Board regulations and IPL's Electric Tariff.

- Third, IPL will continue to store (for 120 days) and test all electric meters removed from service for reasons independent of and unrelated to the AMI Plan.

26. **The provisions of the rule subject to a petition for waiver are not specifically mandated by statute or another provision of law.** The meter rules, Electric Tariff requirements, and Testing Procedure that are the subject of this waiver request are not mandated by statute. Thus, a waiver of these rules and procedures would not conflict with any existing statutory requirements.

27. **Substantially equal protection of public health, safety, and welfare will be afforded by a means other than that prescribed in the rule for which the waiver is requested.** The meter testing rule is meant to ensure that customers are billed only for energy used. IPL will continue to review all issues raised by customers about specific billing inaccuracies during the Waiver Term. IPL will hold all removed meters for 120 days to ensure that IPL is able to test meters in response to any customer inquiries. These measures ensure protection for IPL's customers substantially equal to the existing rules and procedures during implementation of IPL's AMI Plan.

## V. REQUEST FOR EXPEDITED TREATMENT

28. In order to address electric meter testing issues comprehensively and provide its customers with the benefits of AMI sooner, IPL seeks to move quickly with

implementation of its AMI Plan in mid - 2017, beginning with the replacement of existing electric meters with AMI-capable meters on a rolling basis through the end of 2018 and full deployment of the AMI system in mid-2019. Absent a waiver, electric meter testing and replacement requirements under the Board's rules and IPL's Testing Procedure continue to apply, and IPL is obligated to continue to statistically sample, test, analyze, and potentially replace electric meter lots throughout 2017, 2018, and 2019, despite that those meters will be replaced with new, AMI-capable meters regardless of test results. Granting the waiver on an expedited basis will provide IPL with certainty regarding its meter testing and replacement obligations, enabling IPL to plan accordingly. Moreover, granting the waiver will allow IPL to avoid the unnecessary expense of any duplicative electric meter replacements in 2017, which will reduce customer costs and streamline implementation of the plan. As such, IPL respectfully requests that the Board issue a decision on this waiver request by March 31, 2017.

## **VI. CONCLUSION**

WHEREFORE, for the foregoing reasons, IPL respectfully requests that the Board grant, on an expedited basis, a limited and temporary waiver, until December 31, 2019, of certain electric meter testing and analysis requirements of 199 IAC chapter 20; IPL's Electric Tariff; and IPL's Testing Procedure.

Dated this 23<sup>rd</sup> day of January, 2017

Respectfully submitted,

Interstate Power and Light Company

By: /s/ Michael S. Greiveldinger \_\_\_\_\_

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## **EMTS CONTROL PROCEDURE 106 IPL and WPL In-Service Test Plan**

Effective Date: 01/01/2003

Revision Date: 07/12/12

06/03/13. Added Section 3.1 and 3.2 per 2013 Audit.

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### **1.0 PURPOSE**

This procedure identifies the Interstate Power and Light (IPL) and Wisconsin Power and Light (WPL) In-Service Test Plan.

### **2.0 DEFINITIONS:**

**NONE**

### 3.0 INSTRUCTIONS

All in-service meters in the IPL and WPL service territories must be part of a test schedule. These schedules vary by state.

State	Meter Group	Test Interval	Procedures
Iowa	Single Phase Self Contained Non-Demand and Three Wire Network	Statistical Sample Plan	Divided into lots of homogeneous groups based on meter manufacture and type. Use ANSI/ASQC Z1.9-1993 standard for sample testing procedure.
Iowa	Three Phase Transformer Rated Demand or Non-Demand	4 year	Based on last test date or install date
Iowa	Single Phase Transformer Rated Demand or Non-Demand, Single Phase Self Contained Demand, and Three Phase Self Contained Demand or Non Demand	12 year	Based on last test date or install date
Wisconsin	Single Phase Self Contained Non-Demand and Three Wire Network	Statistical Sample Plan	Divided into lots of homogeneous groups based on meter manufacturer and type. Use Military Standard 414
Wisconsin	Three Phase Transformer Rated Demand or Non-Demand	4 year electro-mechanical, 6 years solid state	Based on the more recent of either last test date or install date
Wisconsin	Single Phase Transformer Rated Demand or Non-Demand, Single Phase Self Contained Demand, and Three Phase Self Contained Demand or Non Demand	12 year	Based on the more recent of either last test date or install date
Minnesota	No rules stated specifically by commission. Alliant Energy IPL applies Iowa test schedule to Minnesota In-service meters.		

### 3.1 MINIMUM QUANTITY IN LOT

WPL – Any statistical lot that contains 26 or fewer meters will either have the meters in that lot exchanged, or will have those meters assigned to a Fixed interval plan.

IPL – Any statistical lot that contains 3 or fewer meters will have those meters in that lot exchanged.

### 3.2 WHEN A LOT FAILS

WPL & IPL – If a statistical lot fails that lot will be broken down into smaller lots to concentrate on the particular meter type that is failing. The failing meters will be put into their own lot to more effectively monitor that particular type of meter. If that newly created lot fails again within a five year period from the first failure all the meters in that lot will be exchanged. The lot that failed will be reported to the utility board and the action plan will be communicated to them. If all meters are to be exchanged this must be done within 48 months from the date of the sample analysis.

In summary, the PSCW chapter 113 states that if an in-service sample test lot fails 2 years within a rolling 5 year window the entire lot is required to be removed from service during the following 4 years. (PSCW chapter 113 will be used for best practice in IPL.)

IMPORTANT:

- 1.) Throughout the test year the tested sample meters should be reviewed for their accuracy in case any poor test results are detected. This will allow for possible expedited completion of testing and planning.
- 2.) The utility is allowed to do a resampling of the failed lot in the same calendar year. If the lot passes the second time the lot is considered to have passed for that year. That second test is the one reported to the commission.

To reduce the exposure of a failing lot a second time the utility is allowed to sub-divide the original lot for future test years. It should be noted that even if a lot does not fail the utility has the option to sub-divide lots as meters get older or it makes good business sense.

Considerations should be made in determining how to sub divide a failed sample lot.

- Do the failed meters that caused the lot failure have close serial numbers? A review of the tested meters sorted by serial number low to high may show failed and borderline meters in a certain serial number range.
- Does the manufacturer have any information of a quality control problem during a certain time period or serial number range? A quality control problem could include poor assembly practices or components.
- Can other utilities shed light on accuracy problems with similar meters, i.e. manufacturer's users groups or utility conferences?

- Commission reported sample test results are a public record. Can a search on these public records be of any help?
- Should the failed lot be divided into 2 lots with a split at the known change? As a scenario let's say the lot failed because of 2 meters with very early serial numbers. It may be difficult to determine a cut off serial number. It may be prudent to divide the lot into 3 or more lots.

If an original lot fails that is considered one strike. If one of the sub-divided lots fails in the next 4 years only that sub-divided lot needs to be removed from service. If there is only one failure and 4 more years elapse without a second failure that "strike one" is erased.

Additional meters should not be added to any failed lots. Failed lots should be made smaller if anything.

Accurate record keeping for failed lots need to include all test results, any changes to lot sizes, any lot sub-divisions, and why the changes were made.

#### 4.0 RECORDS

<u>State</u>	<u>Report Required</u>	<u>Deadline</u>
Iowa	Report summarizing the sample plan used the previous year with results.	April 1
Minnesota	Report summarizing the sample plan used the previous year with results.	Not required to submit to commission.
Wisconsin	Report summarizing the sample plan used the previous year with results.	April 15

#### 5.0 REFERENCES

- (1) IOWA ADMINISTRATIVE CODE CHAPTER IAC UTILITIES 199 chapter 20, November 2, 2011
- (2) MINNESOTA CODE OF AGENCY RULES Part E 1978
- (3) WISCONSIN ADMINISTRATIVE CODE Chapter PSC 113 3 Service Rules for Electric Utilities Subchapter January, 2007.