STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

IN RE: PROCEEDING TO ESTABLISH A PILOT METERING PROGRAM FOR MUNICIPALLY-OWNED STREETLIGHTS	)	DOCKET NO. 4513

THE RHODE ISLAND LEAGUE OF CITIES AND TOWNS AND THE WASHINGTON COUNTY REGIONAL PLANNING COUNCILS' OJECTION TO COMPLIANCE FILING

By its attorneys, the Rhode Island League of Cities and Towns and the Washington County Regional Planning Council (collectively the "Municipalities") object to National Grid's March 23, 2015, compliance filing in this docket. Together these parties represent all of the cities and towns in Rhode Island. The proposed pilot still exceeds the scope needed to answer the Commission's four questions and is designed to support National Grid's ownership of the meters despite the Commission's order that the pilot should be ownership neutral. The Company's pilot is designed to facilitate implementation of a Company-owned wireless control system for streetlights owned by municipal customers. The Municipalities seek a pilot that does not assume ownership of the IC metering chip and simply assumes municipal ownership of the streetlight/controller system. The pilot should not test operations that belong to the streetlight network owner or commissioning issues that will always be present, and the pilot should not bias the testing design and results toward a utility-owned meter model.

The Commission created Docket 4513 to continue the metering issue from Docket 4442, municipal owned streetlights. That docket comes from RI Gen. Laws §39-30, which states, in part, "Now, therefore, the purpose of this chapter is to reduce municipal street lighting costs and improve

service to citizens…" This pilot should be designed with the minimal scope and cost possible to answer necessary operational questions.

The devices tested in the "metering" pilot are not meters. Traditional meters are not appropriate for streetlights; if they were, they would have been deployed years ago. The current devices are operational streetlight control devices that allow the municipality to control what lights are on, off, dimmed, brightened, or flashing in emergencies. These intelligent wireless controllers communicate among themselves and to servers for municipal purposes, allowing the municipality to remotely monitor operations, receive real-time outage reports, dim lights for public events or for energy savings or to reduce glare in residential neighborhoods, to brighten lights for events and public safety concerns, or to turn lights on or off for municipal operations. These flexible operations cause consumption variation, so traditional unmetered, fixed-schedule operations no longer suffice. Control device manufacturers have responded by including an accurate metering chip, storage capacity to cover any gap in connectivity, and servers/software to aggregate consumption data by utility accounts and transmit that data to the utility for billing purposes. It is this metering capability that allows them to produce direct consumption data that is accurate for billing purposes and to provide un restricted control of the lights while fairly compensating the utility for energy consumed.

I. The Pilot Can Address the Commission's Concerns with Less Scope and Investment Than Proposed.

The Commission's Order directed that the pilot answer specific questions, "A well-designed pilot should provide a wealth of useful information, including meter accuracy, ability to integrate with the billing system, and a comparison to the unmetered rates. The design should include a cost allocation." These concerns are addressed in the pilot to ensure that National Grid receives data from accurate devices. However, the proposal pilot exceeds the Commission's expectations at unnecessary cost to the Municipalities.

The Commission's concerns can be answered in DOT Phase 1, testing 154 new LED streetlights (installed by RIDOT) with Cimcon intelligent wireless controllers that are equipped with metering capabilities (supplied for this pilot by the Office of Energy Resources). When this field-testing component is joined with National Grid's proposed laboratory testing, all relevant questions will be answered fully.

1) METER ACCURACY:

Laboratory Testing: National Grid's proposal incudes extensive laboratory testing to determine the accuracy of both the individual metering chips and the intelligent wireless controllers in what National Grid calls "end to end" testing. The Municipalities have no objection to the proposed laboratory testing.

Field Testing: The 154 streetlights studied in DOT Phase 1 are already metered with traditional meters. Using these lights and their intelligent controllers for the pilot is cost effective, operationally sufficient and smart. National Grid will be able to compare consumption data from the intelligent controllers and the current meters to determine how well they coincide. Meter accuracy is adequately tested with the laboratory testing and DOT Phase 1's 154 lights.

The thousands of other lights included in National Grid's proposal (DOT Phase 2, municipality) are not needed to test meter accuracy. Their cost is an unnecessary burden on streetlight customers.

While the Division's meter regulations call for 98% accuracy, some metering chips can achieve 99.5% accuracy. The current unmetered system that calculates mathematically the usage and fees associated with a community's lighting inventory and aggregates them into existing accounts for billing is far less accurate and unable to accommodate flexible operational schedules. Meter accuracy

testing from this pilot should be compared only with the Division's standards. If higher accuracy is found, then it should be reported, but should not determine "acceptability."

2) BILLING SYSTEM INTEGRATION: National Grid overstates the scope of work needed to answer these questions, seeking to apply traditional metering to new technology. To understand this concern, one must understand how an intelligent wireless control system operates. A "node" is commissioned on each streetlight to brighten, dim, flash, or turn the light on/off. The node measures the variable consumption such operations create, and stores tie data until it is retrieved through its neighboring nodes to the gateway. The nodes "talk" to each other in a "mesh" network where each one connects with one or more of its neighbors. A "gateway" connects hundreds or thousands of nodes to a central server using wire, fiber, or wireless systems as appropriate for the location. Consumption data is aggregated at the server into accounts the municipal customer and utility agree on. This data is then ready for a modern utility billing system.

National Grid proposes to receive all individual controller consumption data. This removes much of the benefits of the new technology in favor of "doing business the old way." The Municipalities ask the Commission to order National Grid to simply accept aggregated data, organized into each municipalities' current streetlights account structure, or as that structure may be modified to suit municipal organization in the future. The streetlight customer will notify National Grid of any changes to their systems and National Grid will always have full audit access to the individual controller data that is stored on the redundantly backed up network servers to verify municipal reports at any time.

The proposed pilot goes to great length to describe some of the issues that will arise in designing and deploying a wireless streetlight control system, including missing nodes, tree cover, topography, and distance. These are real and common installation/commissioning concerns but they

should not be addressed in this pilot for two reasons. First, these issues are completely independent of whether or not the controller's metering chip will be used for billing purposes. The issues are always resolved in commissioning a controller system, and therefore, are out of place in a metering pilot. Second, commissioning a system will always result in nodes that do not report at first, and nodes/gateways will need to be added or moved to make the system operate fully. These commissioning issues are normal, and will occur in different forms in each and every deployment. Answering all such issues in the pilot is impossible and not necessary to resolve the Commission's concern with billing accuracy.

3) COMPARISON TO UNMETERED RATES: The DOT phase 1 study fully allows for comparison to unmetered rates. The 154 lights installed around the four quadrants of Exit 7 on Route 295 are currently metered with traditional meters, one on each side of Route 295. The lights now have been converted to LEDs from four different manufactures to test the lighting quality of the fixtures. Cimcon intelligent wireless controllers have been installed leading to servers and reporting to DOT. Therefore a three-way comparison is possible: traditional meters, intelligent controllers with metering capability, and unmetered. This exceeds the Commission's expectation at virtually no cost.

4) COST ALLOCATION: The Municipalities are concerned about cost allocation mainly for two reasons. First, intelligent streetlight controllers that provide meter-grade data are not technically viable in many rural Rhode Island communities where streetlights are widely spaced along rural roads with heavy tree cover and undulating topography. Those municipalities should not be forced to subsidize expensive testing of a system that will not be of use to them. Second, municipal budgets are stretched, and our municipalities have learned to make every dollar count. National Grid's costs are high per unit, per hour, and per project, and they pass these high costs on to

Municipal customers. The Municipalities simply ask the Commission to limit this pilot to its absolute minimum scope and cost.

The Municipalities have no objection, in principle, to a municipal field test as part of the pilot, but the Company's proposal does not adequately deal with the cost issues and the municipalities have no incentive to participate. Under National Grid's proposal a municipality will either purchase new LED lights and controllers and allow their use in the pilot or will allow National Grid to install new LED lights for the duration of the pilot. The Municipality can then either pay National Grid what the Company paid for the lights/controllers (likely considerable higher than what the municipality would pay) or have NGRID remove the LEDs and install the original HPS lights (few municipalities would want this). There is no incentive for a municipality to participate in the pilot. The WCRPC discussed the pilot with one large municipality and several smaller ones and it was made clear that unless there was a significant financial incentive, none of the municipalities had any interest in participating in the pilot, due to complexity, timing, interference with their own procurement, cost, and other considerations.

The Town of Randolph, Massachusetts is installing over 2,646 LED streetlights with a Cimcom wireless intelligent control system right now within National Grid's service area. The system is paid for by Randolph and could be monitored at little or no cost. Randolph is aware of the Rhode Island pilot and has offered to have their system monitored as part of the pilot. The Municipalities suggested including field-testing in Randolph to monitor commissioning and integration issues but National Grid did not accept that proposal.

II. The Pilot Should Not be Designed to Explore or Support Utility Ownership of Meters.

The Commission's order states, "The proposal should not assume meter ownership on the part of either party." The results of the ownership question must, as the PUC directed, be left until after

the metering pilot is concluded. However, National Grids pilot seeks to prepare for National Grid's ownership of the streetlight controllers system by its very design. National Grid's proposed pilot has too broad a scope to answer the Commission's concerns, as discussed earlier. This broad scope is exactly what would be needed for National Grid to learn to design its own statewide controller system. In that case they would, indeed, be concerned with such issues as gateway placement, node connectivity, topography, tree cover, and buildings—these are obstacles to a whole-system design. The high number of test streetlights in this pilot only makes sense as support for the design of a centrally controlled system. These design aspects have no place in a pilot intended to answer the Commission's concerns.

There are specific references to meter ownership in National Grid's current submittal and its prior submittal. In the present proposal most such specific references have been removed, like including HID lighting in the pilot and choosing four municipalities to cover more of the state. However, there are still some indications of this bias. For example, the Executive Summary states that "…the Company proposes to investigate similar utility managed network-controlled street lighting infrastructure applications…." (p. 3/49) The utility managed systems referenced by National Grid all involve utility ownership of the meters. One, Florida Light and Power, recently announced the purchase of 500,000 Silver Springs controller systems. This limitation to "utility managed" systems, together with National Grid's unwillingness to consider readily available information from nearby Randolph, Massachusetts, illustrate bias toward utility ownership of the meters.

In Massachusetts, National Grid's only roles with municipal owned streetlights are billing and efficiency. National Grid chose not to participate in or monitor the design of Randolph's intelligent wires streetlight control system that would provide the same meter data the Rhode Island pilot will, and will be used for metered billing if Massachusetts allows it. The broader scope proposed here is

indicative of National Grid's effort to support its ownership of the meters.

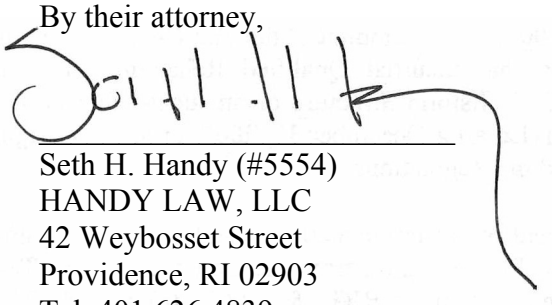
Conclusion

The Municipalities are grateful for the Commission's oversight here and in Docket 4442. Municipalities are moving steadily toward the implementation of streetlight reform. Your oversight will help save municipal ratepayers nearly $8 million annually. The Municipalities regret that National Grid did not agree to the reasonable modifications to their proposed pilot, as discussed herein. We have made great progress in reducing National Grid's original $4.2 million pilot proposal to the current $441,000 version. However, the Municipalities still see unnecessary scope and opportunity for further savings. These pilot costs are spread over streetlight customers that will notice the difference in their municipal budgets. We respectfully ask the Commission to scale the field-testing back to DOT Phase 1 and limit the billing integration to the aggregated account data that is normal to an intelligent wireless control system.

Respectfully submitted,

THE RHODE ISLAND LEAGUE OF CITIES AND TOWNS and THE WASHINGTON COUNTY REGIONAL PLANNING COUNCIL

By their attorney,



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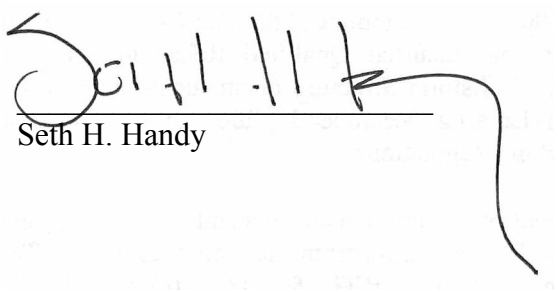
CERTIFICATE OF SERVICE

I hereby certify that on March 25, 2015, I mailed this original pleading and 9 photocopies to the PUC and sent a true copy of the document by electronic mail to the parties.



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