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Debra Howland  
Executive Director  
New Hampshire Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, NH 03301-2429

RE: Docket No. IR 15-135  
Complaint of Jesse Mertz  
Response of Eversource

Dear Director Howland:

On April 30, 2015, Public Service Company of New Hampshire d/b/a Eversource Energy (“Eversource”) received a submission from a customer, Jesse Mertz, that had been filed with the Commission and which was later docketed as Docket No. IR 15-135. In its notification to Eversource, the Commission stated that it was treating the submission as a complaint pursuant to RSA 365:1 and :2 and required Eversource to respond on or by May 14, 2015. Eversource herein provides its response to the complaint as required by PART Puc 204 and the Commission’s April 30, 2015 letter.

As the Commission is aware, Eversource is in the process of changing and upgrading the approximately 550,000 electric meters employed throughout its service territory. Eversource is moving from a system based primarily on analog electric meters and manual meter reading, to a system based upon digital meters using Automated Meter Reading (“AMR”) technology and mobile meter reading. In the existing system, an Eversource employee must manually read and record the meter readings each month for each meter. In the new system, the AMR meters will emit a brief radio frequency pulse that will be picked up by a receiver in an Eversource vehicle. The signal transmitted by the AMR meters will include only the total amount of energy recorded on the meter, a unique identifier for the meter, and some status information about the meter. That information will be collected by an Eversource vehicle and, upon that vehicle’s return to an Eversource facility, the information will be uploaded to Eversource’s meter data management system. Thereafter, it will be moved from the meter data management system into the customer billing system where the usage information will be linked to billing information to generate a customer bill. The new system will enable more efficient collection of customer meter data and improve Eversource’s operational efficiency. Eversource’s AMR meters do not, and will not, transmit any customer information and the AMR meters do not communicate with anything other

than the receiver in an Eversource vehicle or a properly configured handheld receiver possessed by Eversource.

Eversource is not deploying an Advanced Metering Infrastructure (“AMI”) system. In such a system, advanced smart meters are required, along with a robust communications network and computer systems and software that would manage the flow of information to and from meters. Eversource does not have, and is not obtaining, such control software and, as explained further in this response, does not have, and is not installing, the necessary communications network for an AMI system.

Relative to the above-identified complaint, in brief, Eversource understands the complaint to be that Eversource’s AMR meters qualify as “smart meter gateway devices” (“SMGDs”) under RSA 374:62 and, therefore, require affirmative customer consent prior to their installation. According to the complaint, the customer was not provided any opportunity to either provide or deny consent and, therefore, installing the meters is unlawful. The basis for the claim that the meters are SMGDs appears to rely upon the fact that the meters contain a chip, known as a ZigBee chip<sup>1</sup>, that may permit the meters to communicate with devices within a customer’s home or business. Pursuant to Puc 204.02(c), Eversource states that nearly all of the information in this response has already been provided to the complainant to describe the scope of Eversource’s work, the limitations of its meters, and its compliance with relevant law. In that the complainant has, nonetheless, submitted this complaint, pursuant to Puc 204.03(a)(2) Eversource hereby advises the Commission that it disputes the complaint.

RSA 374:62, the statute underlying the complaint, reads as follows:

**374:62 Property Owner’s Consent Required for Smart Meter Gateway Devices. –**

I. In this subdivision:

(a) “Smart meter gateway device” means any electric utility meter, electric utility meter component, electric utility load control device, or device ancillary to the electric utility meter, which is located at an end-user’s residence or business, and which serves as a communications gateway or portal to electrical appliances, electrical equipment, or electrical devices within the end-user’s residence or business, or which otherwise communicates with, monitors, or controls such electrical appliances, electrical equipment, or electrical devices.

(b) “Electric utility” means any public utility, as defined in RSA 362:2, which is engaged in the sale or distribution of electricity ultimately sold to the public, any rural electric cooperative, without regard to whether a certificate of regulation or deregulation is on file with the public utilities commission, and any municipal electric system operating pursuant to RSA 38 within or outside its municipal boundaries.

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<sup>1</sup> A ZigBee chip is a communications chip, manufactured to operate on a recognized standard that could, under certain conditions, allow electronic devices such as thermostats or rooftop solar panels to communicate with an electric meter. More information may be found at <http://www.zigbee.org/>.

II. (a) No electric utility that sells or provides electricity within the state of New Hampshire shall install a smart meter gateway device on or in a person's home or business without the written consent of the person or persons who own the home or business.

(b) An electric utility selling or providing electricity shall create a form that the person or persons who own the home or business must sign to opt-in to having a smart meter gateway device installed on or in his or her home or business. The form shall, in at least 12-point boldface type, state that:

(1) The opt-in is optional and one's service will not be affected if one elects not to opt-in; and

(2) The device is a "smart meter gateway device," and provide the definition in subparagraph I(a).

III. When an electric utility enrolls a homeowner or business owner for electrical service at his or her home or business, the electric utility shall disclose in writing whether a smart meter gateway device has been installed, and shall remove, or allow to be removed, all smart meter gateway devices upon written request of the homeowner or business owner.

Integral to this issue is the definition of an SMGD and integral to that definition is the requirement that to be considered an SMGD the device must "serve" as a gateway or portal to equipment within the home or business, or it must communicate with such equipment. The law does not state that a meter is an SMGD if it is potentially capable of acting as a gateway or portal to equipment within the home or business, or it is potentially capable of communicating with such equipment. The SMGD must actually serve at least one of those purposes. Eversource's AMR meters do neither of these things. The complaint contends that the existence of the ZigBee chip, however, is sufficient to deem the AMR meters as SMGDs. The mere existence of the ZigBee chip does not render the meters SMGDs under New Hampshire law.

For clarity, the vast majority (approximately 490,000) of the AMR meters being deployed by Eversource are CENTRON C1SR R400 model meters manufactured by Itron which do not have any capability to communicate with any customer devices, or to serve as a gateway or portal.<sup>2</sup> They have no ZigBee chips. The meters are able to communicate only with a properly configured receiver in Eversource's vehicles. Those meters are not SMGDs.

The remaining meters (approximately 60,000) Eversource is installing are CENTRON Bridge meters also manufactured by Itron.<sup>3</sup> These meters do contain a ZigBee chip. The CENTRON Bridge meter does provide some functions that are more advanced than the CENTRON C1SR R400 meters. Those functions, however, are limited to the ability to remotely (from a nearby vehicle or location) reset the demand component and the ability to remotely

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<sup>2</sup> Material from Itron's website relating to the CENTRON C1SR R400 meters being installed by Eversource is included with this response as Attachment 1.

<sup>3</sup> Material from Itron's website relating to the CENTRON Bridge meters being installed by Eversource is included with this response as Attachment 2.

(from a nearby vehicle or location) disconnect or reconnect electrical service via a switch in the meter. The meters do not serve as communications gateways to electrical appliances, equipment or devices. The CENTRON Bridge meters also do not communicate with, individually monitor, or control appliances, equipment or devices. The CENTRON Bridge meters are not configured to allow any communications with customers' devices and even if a willing customer installed equipment capable of communicating with a meter, that equipment could not communicate with Eversource's meters because they are not configured to allow such communications. Eversource's AMR meters do not serve as gateways or portals, and do not communicate with any devices inside customers' homes or businesses. Therefore, they are not SMGDs.

All meters being deployed by Eversource, regardless of their specific model or type, do not communicate with any equipment in customers' premises.<sup>4</sup> As noted, the definition of an SMGD is a device that "serves as a communications gateway or portal . . . or which otherwise communicates with, monitors, or controls" electrical equipment. Because the meter must actually act as a gateway, or actually communicate with equipment before it can be considered an SMGD, Eversource's meters are not SMGDs. They measure total consumption and provide that consumption information to Eversource.

Eversource notes that Itron also manufactures and sells what it calls an OpenWay CENTRON meter, which has a ZigBee chip, and could, potentially act as an SMGD.<sup>5</sup> Potentially confusing is that both the CENTRON Bridge meter and the OpenWay CENTRON meter display the term "OpenWay" on their faces because they are very similar devices with essentially the same hardware. The primary and essential difference between them, however, is that the CENTRON Bridge meter is not configured to allow any communications with customers' devices.

As a further point, Eversource notes that even beyond the enhancements and upgrades that would be needed to the software and the firmware of the CENTRON Bridge meters, to actually enable a meter to function as an SMGD would require substantial and expensive enhancements to the communications infrastructure supporting the meters.<sup>6</sup> Presently, Eversource does not have in place a fixed network communications infrastructure that would permit communications to, from, or with the new meters. Neither will Eversource have such communications systems in place following the completion of the change out of its meters, estimated to be complete in mid-2016, nor for some time thereafter, if ever. Without a fixed network communications system in place (which Eversource estimates would cost more than \$100 million and take many years to develop and deploy) the meter cannot actually "serve" as a gateway or portal as is required to be an SMGD because there would be no transfer of data that would enable the meter to serve as a gateway or portal.

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<sup>4</sup> The affidavit of Michael Coit, a Senior Engineer with Eversource familiar with the meters and Eversource's AMR project, confirming the limitations of the meters is included with this response as Attachment 3.

<sup>5</sup> Material from Itron's website relating to the OpenWay CENTRON meter is included as Attachment 4.

<sup>6</sup> The ZigBee Alliance itself notes as much on its website where it states that ZigBee "is used to deliver innovative solutions for smart meters and the home area network (HAN) that allow consumers to know and control their energy use by connecting them to the smart grid." See <http://www.zigbee.org/what-is-zigbee/utility-industry/> (accessed May 4, 2015) and included as Attachment 5 to this response. In the case of Eversource, the lack of the relevant communications systems means that customers will not be connected to "the smart grid."

Additionally, the complaint makes reference to a press release from Itron dated January 7, 2014 describing the changes to Eversource's meters and contends that the release counters Eversource's description. To the contrary, the press release supports Eversource's description.<sup>7</sup> The press release, which relates only to the CENTRON Bridge meters, notes that Eversource will "utilize Itron technology to automate meter data collection, streamline billing operations and enhance customer service. . . . [and] will replace manual meter reads with mobile data collection, increasing efficiencies and reducing operational costs." In other words, Itron is confirming that the meters will be used for mobile, rather than manual, meter data collection. Further, the press release states that even where the capabilities might be greater than merely reporting total consumption, the only "advanced capabilities" Eversource will have are "mobile demand resets and remote meter service switch operations."<sup>8</sup> Therefore, as noted above, the meters would be used to remotely (from a nearby vehicle or location) reset the demand component, or to remotely (from a nearby vehicle or location) disconnect or reconnect electrical service using a switch in the meter. At no point does the release state or imply that Eversource would use meters that will provide a gateway to, or communicate with, devices in customers' properties. The press release states, as Eversource does in this response, that Eversource's AMR meters will permit it to more efficiently collect metering data, which will enable it to more efficiently run its business. The meters will not enable or allow communications with any devices in customers' premises.

Lastly, Eversource notes that this situation is little different than that ruled upon by the Commission in Docket No. DE 12-245 with respect to the meters installed by the New Hampshire Electric Cooperative ("NHEC"). In Order No. 25,409 (September 6, 2012) in that docket, the Commission noted that in addition to installing the necessary communications infrastructure which, as noted, Eversource has not done and is not doing, NHEC was installing two new types of meters. The first were described as "basic" or "standard" smart meters and the second as "advanced" smart meters. Order No. 25,409 at 4. The majority of the meters it was installing were "basic" meters which would collect whole building electric consumption data and transmit it, via the recently installed communications system, back to NHEC's meter data system. *Id.* Notably, NHEC's metering supervisor stated that "there is no firmware or software installed in NHEC's basic, or standard, smart meters that could provide gateway device capabilities." *Id.* at 5.

By contrast, the "advanced" meters allowed communication with specific appliances and equipment located at the customer premises by means of an installed and enabled ZigBee chip. *Id.* at 4-5. The affidavit of NHEC's metering supervisor stated, relative to the "advanced" meters, that "even NHEC's Zigbee-equipped Advanced Smart Meters do not serve as smart meter gateway devices unless the Co-op member has voluntarily participated in or facilitated the commissioning of each in-home device to which meter communications is desired." Affidavit of Douglas Bergholm at 2-3. Even then, NHEC noted that "a pilot program participant with one of the few Zigbee-equipped smart meters and a NHEC-provided in-home display would only generate and view whole-house usage data." NHEC Smart Meters vs. "Smart Meter Gateway

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<sup>7</sup> A copy of that press release is included with this response as Attachment 6.

<sup>8</sup> Notably, the press release also references that Eversource is transitioning to use of Itron's Field Collection System along with the deployment of its new meters. As noted in the information from Itron's website included as Attachment 7, the Field Collection System is designed for walk-by and drive-by AMR systems, such as the one being used by Eversource.

Devices,” submitted by NHEC on August 9, 2012 in Docket No. DE 12-245 at 6-7. Further, he stated that “NHEC’s Zigbee-equipped smart meter located at the pilot participant’s premises will not communicate with any smart meter-enabled appliance or equipment which the participant may own unless the member requests that the equipment be commissioned, provides NHEC with that equipment’s unique identifying information, and NHEC agrees to and performs the commissioning of that equipment.” *Id.* at 7. Therefore, even NHEC’s “advanced” meters with enabled ZigBee chips would not communicate with customer equipment absent specific commissioning, receipt of specialized information by the utility, and utility agreement.

In ruling upon whether NHEC’s meters qualified as SMGDs, the Commission noted that “The statutory definition of a smart meter gateway device *requires that the meter communicate with, monitor or control appliances, equipment or devices within the residence or business.*” Order No. 25,409 at 9 (emphasis added). The Commission therefore concluded that NHEC’s “basic” meters were not SMGDs because they could not “communicate with devices behind the customer meter.” *Id.* This is essentially identical to the CENTRON C1SR R400 meters being installed by Eversource which cannot communicate with devices behind the customer meter.

With respect to NHEC’s “advanced” meters, the Commission noted that those meters were not in issue in the docket, but that NHEC had nevertheless “properly recognize[d]” that they were SMGDs under RSA 374:62 because those meters were being used in a voluntary pilot program where customers were required to, and did in fact, commission each in-home device to which meter communication was required. *Id.* at 9. As a first matter, when installing these “advanced” smart meters NHEC also developed and deployed the very communications infrastructure that Eversource has made clear it does not have, but would need, to support the use of meters as SMGDs. This fact alone is sufficient to demonstrate that Eversource’s meters, unlike NHEC’s meters, are not capable of acting as SMGDs.

With respect to the meters themselves, as with NHEC’s “basic” meters, Eversource’s CENTRON Bridge meters are not configured in a manner that would allow any gateway device capabilities. Furthermore, even if at some future point they might be properly configured, like NHEC’s advanced meter customers, before any communications could actually occur there would need to be specific commissioning, receipt of specialized information by the utility, and utility agreement. Unlike NHEC’s advanced meter customers, however, no Eversource customer is requested or required to commission any device to communicate with the meter and will not be provided any device that would or could so communicate. Moreover, even if a willing customer installed a “smart” appliance following the installation of a new Eversource meter, the appliance and the meter would not communicate because the meters are not configured for such communications and, even if they were, Eversource would not enable or allow such communications. The meters simply cannot perform the functions that would render them SMGDs. Thus, Eversource’s meters do not meet the definition of SMGDs in New Hampshire law, and affirmative written consent to their installation is not required.

Eversource takes seriously its obligations to abide by its legal and regulatory requirements. Eversource is aware of the limitations inherent in RSA 374:62 and is installing meters compliant with the requirements of the law. In fact, one of the reasons Eversource determined to use the technology that it did was that it recognized the potential difficulty of

obtaining affirmative written consent from customers and that failing to obtain that consent could place real and substantial limits on the capabilities of a “smart grid” or AMI system. In New Hampshire, Eversource is only updating its metering technology to match with that already in use by its affiliated companies, and to achieve operational efficiencies. Eversource is doing so by deploying AMR meters that do not communicate with customer equipment and that are otherwise compliant with all relevant legal requirements.

Very truly yours,



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