

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

MICHELE HRIADIL and	:	
FRANCIS HRIADIL,	:	
	:	
Complainants,	:	
	:	
vs.	:	No: C-2016-2571726
	:	
DUQUESNE LIGHT COMPANY,	:	
	:	
Respondent.	:	

ANSWER IN OPPOSITION TO MOTION TO COMPEL DISCOVERY

Respondent Duquesne Light Company (“Duquesne Light”), by and through its attorneys Tucker Arensberg, P.C., submits this Answer in Opposition to Motion to Compel Discovery:

INTRODUCTION

The Honorable Jeffrey A. Watson (the “ALJ”) should deny the Motion to Compel Discovery filed by Complainants Michele Hriadil and Francis Hriadil (“Complainants”) on February 20, 2018. This is Complainants’ second attempt to compel more specific responses to their first set of discovery requests. Duquesne Light, however, has already provided full and complete responses to those voluminous requests. In addition, Complainants’ second motion to compel fails to comply with the interim order issued by the ALJ on February 5, 2018. Finally, if Complainants’ motion is granted, the additional discovery they seek would cause unreasonable annoyance, burden, expense, or investigation by Duquesne Light. For these reasons, Complainants’ motion to compel must be denied.

FACTS

In this action, Complainants seek to opt out of Duquesne Light's smart meter plan because they believe smart meters are universally unsafe and should not be permitted in the Commonwealth of Pennsylvania.¹ Duquesne Light denies these allegations.

On October 5, 2017, Complainants served Set #1 of Discovery Requests (the "Discovery Requests") on Duquesne Light. This 23-page document contained voluminous questions about many aspects of Duquesne Light's smart meter plan and the associated technology, including many questions that related to technical terms and concepts. Complainants did not define most of the technical terms and concepts they used throughout the Discovery Requests.² Many questions in the Discovery Requests included numerous subparts, and those subparts generally contained several additional questions. For example, Question 1 had 21 subparts that contained 38 total questions. All told, when the subparts are considered, the Discovery Requests contained **more than 150** interrogatories and document requests directed to Duquesne Light. A true and correct copy of the Discovery Requests is attached as Exhibit A.

Duquesne Light served its responses to these voluminous requests on November 20, 2017 (the "Discovery Responses"). A true and correct copy of the Discovery Responses is attached as Exhibit B. Duquesne Light's Discovery Responses consisted of 32 pages and addressed each and every question posed by Complainants, including all of the many subparts and sub-questions, even though many questions sought undefined or vaguely-described technical information. Duquesne Light also produced 27 different documents to Complainants ranging from Commission decisions to studies to reports. These 27 documents contained more than 900 total pages.

¹ Duquesne Light has not installed a smart meter at Complainants' property.

² The Definition section in the Discovery Requests defines just a handful of common terms: "You," "Your," "Formal Complaint," "Document," "Control," "Property," and "Smart Meter."

After Duquesne Light served its Discovery Responses on November 20, 2017, Complainants did not take any related action for more than a month. They did not file a motion to compel or raise any objections to Duquesne Light about the Discovery Responses. Then, on December 30, 2017, Complainants filed a Motion to Compel Discovery (the “First Motion to Compel”) and a document titled Follow-up to Set #1 of Discovery Requests (the “Follow-up Discovery Requests”). The Follow-up Discovery Requests were 41 pages long and contained **at least 190** additional discovery questions. The First Motion to Compel sought an order to compel Duquesne Light to respond to those questions.

Duquesne Light sought to strike the First Motion to Compel because it improperly attempted to compel responses to simultaneously-served discovery requests. Duquesne Light also requested a protective order relating to the Follow-up Discovery Requests because they would cause unreasonable annoyance, embarrassment, oppression, burden, or expense and would require the making of an unreasonable investigation by Duquesne Light.

On February 5, 2018, the ALJ issued an Interim Order Denying Complainants’ Motion to Compel, Denying Respondent’s Motion to Strike, Granting Respondent’s Motion for Protective Order and Modifying the Litigation Schedule (the “Interim Order”). In the Interim Order, the Commission found that Complainant’s First Motion to Compel failed to identify the specific interrogatories or requests for production that are incomplete, insufficient, or otherwise objectionable and the specific basis for each such claim. The Commission also noted that Complainants waited more than a month after receiving Duquesne Light’s Discovery Responses to file the First Motion to Compel. In addition, the First Motion to Compel did not seek entry of an order to compel Duquesne Light to respond more fully to the Discovery Requests; rather, the First Motion to Compel essentially sought to compel Duquesne Light to respond to a new set of discovery requests. Due to these deficiencies, the ALJ denied the First Motion to Compel.³

³ In light of its ruling, the ALJ dismissed Duquesne Light’s motion to strike as moot.

In the Interim Order, the ALJ also gave Complainants a chance to revise their First Motion to Compel. Specifically, Paragraph 1 of the Interim Order stated:

That Complainants' Motion to Compel dated December 30, 2017 . . . is denied. Complainants may file a more specific and concise Motion to Compel responses to the discovery requests propounded by Complainants on October 5, 2017, identifying the specific interrogatories or requests for production that are incomplete, insufficient or otherwise objectionable and the specific basis for each such claim, on or before February 20, 2018.

Notably, the Interim Order did not authorize Complainants to submit new questions as part of a revised motion to compel; rather, they were instructed to simply identify which discovery responses they objected to and why.

On February 20, 2018, Complainants submitted another Motion to Compel Discovery (the "Second Motion to Compel") in response to the Interim Order. Although the Interim Order directed Complainants to file a more concise motion, they submitted a 48-page document, which is seven pages longer than the Follow-up Discovery Requests. Complainants also did not limit the Second Motion to Compel to simply explaining which discovery responses they objected to and why; rather, Complainants went a step further by asking roughly **165** additional questions of Duquesne Light. The majority of those questions were included in Complainant's Follow-up Discovery Requests that were the subject of Duquesne Light's request for a protective order.⁴

ARGUMENT

The Second Motion to Compel should be denied for three reasons. First, Duquesne Light has already provided full and complete responses to the Discovery Requests. Second, the Second Motion to Compel fails to comply with the Interim Order. Finally, the Second Motion to Compel should be denied because the additional discovery it purports to seek would cause

⁴ Duquesne Light incorporates its Motion to Strike and Motion for Protective Order filed on January 5, 2018 by reference.

unreasonable annoyance, expense, burden, or investigation if Duquesne Light were forced to respond.

A. *The Second Motion to Compel should be denied because Duquesne Light has already provided full and complete responses to the Discovery Requests.*

The Second Motion to Compel should be denied because Duquesne Light has already provided full and complete responses to the Discovery Requests, as required by 52 Pa. Code § 5.342(4). The company has fully responded to each interrogatory, even though Complainants submitted more than 150 interrogatories and document requests about a plethora of technical information relating to many aspects of Duquesne Light's smart meter plan and technology. The company provided a thorough 32-page written response and produced more than 900 pages of documents to Complainants. See Exhibit B.

Complainants make much of the fact that Duquesne Light's responses at times were qualified in the sense that the company noted that some of Complainants' questions were vague or ambiguous or that the nature of Duquesne Light's actions may depend on "business processes." See, e.g., Motion to Compel Discovery ¶¶ 7, 10, 11, 19, 22, 27, 29, 33. Such qualifications, however, do not render Duquesne Light's responses incomplete or insufficient under the Commission's rules. Duquesne Light readily admits that, at times, it had to point out that certain questions were vague or difficult to comprehend for the simple reason that those questions truly were vague and difficult to comprehend. These qualifications were necessary for Duquesne Light to provide accurate answers to Complainants' requests as Duquesne Light understood them. Moreover, Complainants repeatedly inquired about a wide variety of technical information relating to Duquesne Light's smart meter program and associated technology without defining almost all of those terms. This often made it difficult for Duquesne Light to determine precisely what information Complainants were seeking. If Complainants now feel that Duquesne Light failed to provide the exact responses that Complainants desired, the fault lies with Complainants' questions and not Duquesne Light's answers.

B. *The Second Motion to Compel should be denied because it fails to comply with the Interim Order.*

The Second Motion to Compel also should be denied because it fails to comply with the Interim Order. The scope of permissible discovery in Commission proceedings is governed by the Commission's rules at 52 Pa. Code § 5.321. The presiding officer in any proceeding has broad discretion regarding the scope of discovery. 52 Pa. Code § 5.321(b). Failure to comply with a presiding officer's order is not reasonable or excused. See Application of A-Merit Med. Transportation, Inc. for the Right to Begin to Transp., As A Common Carrier, by Motor Vehicle, Persons, in Paratransit Serv., in Wheelchair Vans & Sedans, Between Points in the Ctys. of Bucks, Chester, Delaware, Montgomery & Philadelphia, A-2015-2487881, 2016 WL 192078, at *4 (Pa. P.U.C. Jan. 4, 2016); Havana Banana Grp., Inc. v. PECO Energy Co., C-2013-2391061, 2014 WL 466628, at *5 (Pa. P.U.C. Jan. 13, 2014).

Here, the Interim Order states that Complainants "may file a more specific **and concise** Motion to Compel responses to the discovery requests propounded by Complainants on October 5, 2017, identifying the specific interrogatories or requests for production that are incomplete, insufficient, or otherwise objectionable and the specific basis for each such claim . . ." (emphasis added). Notably, the Interim Order did not state that Complainants could use the Second Motion to Compel to tack on new discovery questions. In fact, the Interim Order held that the First Motion to Compel was defective, in part, because it sought to compel Duquesne Light to respond to new discovery requests rather than simply seeking full responses to the original discovery questions. To avoid repeating that mistake, the Interim Order instructed Complainants to submit a concise motion that merely identified which discovery responses were objectionable and the specific basis for each objection.

Complainants have not complied with the Interim Order. Despite the Interim Order's explicit instructions, the Second Motion to Compel is not concise. It spans 48 pages (making it

even longer than the Follow-up Set of Discovery Requests) and basically rearranges the content of the First Motion to Compel and Follow-up Discovery Requests.

Moreover, Complainants did not abide by the Interim Order's directive to limit the Second Motion to Compel to identifying which discovery responses were objectionable and the specific basis for each objection. Complainants went a step further and included more than **165** new questions, which is precisely what the ALJ rejected in the First Motion to Compel.

In short, despite the Interim Order's clear instructions, Complainants essentially reshuffled their First Motion to Compel and Follow-up Discovery Requests and submitted them again in the Second Motion to Compel. The ALJ should exercise its broad discretion regarding the scope of discovery matters and deny the Second Motion to Compel.

C. *The Second Motion to Compel should be denied because the additional discovery it purports to seek would cause unreasonable annoyance, expense, burden, or investigation if Duquesne Light were forced to respond.*

Finally, the Second Motion to Compel should be denied because the additional discovery it purports to seek would cause unreasonable annoyance, expense, burden, or investigation if Duquesne Light were forced to respond. While parties to Commission proceedings are entitled to seek discovery (as Complainants already have), discovery does not allow "fishing expeditions," and *pro se* parties have no greater discovery rights than represented parties. Johnson v. Lightcap, No. 467 C.D. 2008, 2008 WL 9405102, at *1 (Pa. Commw. Ct. July 11, 2008) ("Discovery is not intended to allow parties to embark upon "fishing expeditions," and the reasonableness of a given request . . . are matters for the trial court to determine in the exercise of its sound discretion."); Green v. Harmony House N. 15th St. Hous. Ass'n, Inc., 684 A.2d 1112, 1114 (Pa. Commw. Ct. 1996) (the fact that the plaintiff decided to be her own lawyer does not excuse her from failing to follow the relevant rules of procedure and substantive law). The Commission's regulations thus prohibit discovery that, among other things, would cause

unreasonable annoyance, burden, expense, or would require the making of an unreasonable investigation. 52 Pa. Code § 5.361.

The Second Motion to Compel, if granted, would cause unreasonable annoyance, expense, burden, or investigation for Duquesne Light for a few reasons. First, it attempts to improperly expand the scope of this proceeding from one that questions whether Duquesne Light has violated the Public Utility Code, an associated regulation, or tariff⁵ into a wholesale attack on Duquesne Light's smart meter implementation plan (which has already been approved by the Commission)⁶ and/or a challenge to the scientific merit of Act 129's mandatory universal deployment of smart meters, which is already settled law.⁷ Complainants should not be permitted to expand the scope of this hearing through the discovery process. Furthermore, because Complainants' discovery requests exceed the scope of this proceeding, they are outside the scope of discovery permitted under 52 Pa. Code § 5.321(c) because they, by nature, are not "relevant to the subject matter involved in the pending action."

There is a myriad of other problems with the Second Motion to Compel, the cumulative effect of which is to impose precisely the sort of unreasonable burden, annoyance, and investigation prohibited by 52 Pa. Code § 5.361. A representative sampling of those problems is set forth below:

⁵ See Interim Order Denying Preliminary Objections at 6-7 (Order Entered August 16, 2017) (Watson, ALJ) ("In order to prevail on some or all of the assertions raised in the complaint, Complainants must prove, by substantial evidence, that they are entitled to relief because Respondent has violated the Public Utility Code, a Commission order or regulation, or a Commission-approved tariff of the company concerning their service to them.")

⁶ See Docket No. M-2009-2123948 (Pa. P.U.C. Opinion and Order entered May 6, 2014)

⁷ See, e.g., Starr v. PECO Energy Co., C-2017-2615628, 2017 WL 4864901, at *5-6 (Pa. P.U.C. Oct. 4, 2017) ("The Commission has, within its discretion, interpreted Act 129 as not allowing an opt out of smart meter installation."); Evans v. PECO Energy Co., Docket No. C-2013-2368477, 2013 WL 7019103 at *3 (Pa. P.U.C. Dec. 19, 2013); Francis v. PECO Energy Co., Docket No. C-2014-2451351, 2015 WL 5011620 at *7 (Pa. P.U.C. August 20, 2015).

- a. Complainants include at least **165** discovery questions in the Second Motion to Compel, in addition to the more than **150** discovery questions that Duquesne Light has already answered.
- b. Some follow-up questions in the Second Motion to Compel amplify the original requests into areas outside the scope of the Complaint or the Presiding Officer's Interim Order. See, e.g., Paragraph 26 (pp. 28-29) (asking whether customers in general are advised "at any time" that their internal electrical circuitry is their responsibility and informed of "what additional upgrades/protections should be installed to ensure that his internal electrical circuitry and appliances are protected and compatible with the new Smart Meter being installed on his property"); Paragraph 30 (pp. 32-33) ("Is 'meter exchanger' a recognized profession?" and "Are the Smart Meter exchangers temporary or permanent employees?"); Paragraph 31 (pp. 33-34) (asking about the bonus structure for meter exchangers); Paragraph 39 (pp. 40-41) (asking many questions through 12 separate bullet points about how customers with smart meters are billed based on the usage read by the meter, when no billing concerns were raised in the Complaint).
- c. Other questions are argumentative and/or ask Duquesne Light to speculate as to a myriad of possibilities or unknown future events. See, e.g., Paragraph 41 (p. 42) (after Duquesne Light answered "[n]o" to whether it had "plans in the future to market" customer data for creating new income streams, Complainant stated Duquesne Light's answer requires clarification and asked, "Is the Respondent precluded from offering this personal customer data to any individual, company, or organization in the future?").
- d. Some repeat the same question Duquesne Light has already answered. See, e.g., Paragraph 37 (p. 39) (after Duquesne Light answered "[n]o" and provided an explanation to the question of whether "personal data [will] only be used for billing purposes internal to Duquesne Light," Complainants asked again "Will this personal customer electric usage data be used only for billing purposes internal to Duquesne Light?").
- e. Some criticize Duquesne Light for responding generally to a question that was broad or general in nature. See, e.g., Paragraph 7 (pp. 10-11) (criticizing Duquesne Light's use of the term "business processes" in its responses); Paragraph 8 (pp. 11-12) (same). The questions contained in the Second Motion to Compel are replete with these sorts of broad and generic questions.

All told, the voluminous questions in the Second Motion to Compel, which follow more than 150 requests already answered, are exactly the type of unreasonably burdensome,

annoying, and harassing fishing expedition that is prohibited by the discovery rules. Duquesne Light understands Complainants are acting *pro se*, but that does not grant them the right to ask hundreds of unreasonable and burdensome discovery requests.

CONCLUSION

For the foregoing reasons, the Second Motion to Compel should be denied.⁸

⁸ Duquesne Light will provide a supplemental discovery response to a portion of Discovery Request No. 9. Specifically, Duquesne Light's supplemental response will distinguish among "meter specialists," "field meter technicians," and "installation technician/meter exchanger," as those terms were used in its initial response.

331 Shady Ridge Drive
Monroeville, PA 15146

October 5, 2017

Via Paper Filing

Jeremy V. Farrell, Esquire
TUCKER ARENSBERG, P.C.
1500 One PPG Place
Pittsburgh, PA 15222

RE: **Michele Hriadil and Francis Hriadil v. Duquesne Light Company**
Docket No. C-2016-2571726

Dear Jeremy V. Farrell, Esquire, Counsel for Duquesne Light Company:

As Respondent's Counsel, enclosed please find Complainant's (Hriadil's) Set #1 of Discovery Requests Directed to Respondent (Duquesne Light Company).

The standard response time is within twenty days after the date of service. Your responses must be verified in accordance with 52 Pa. Code § 1.36.

Thank you for your attention to this request.

A copy of this document has been provided to Judge Jeffrey Watson, PA PUC Pittsburgh Administrative Law Judge Office, in accordance with Commission regulations.

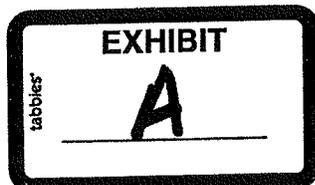
Please feel free to contact me if you have any questions.

Sincerely,



Francis Hriadil
Complainant
(412) 779-3314
hriadil@attglobal.net

Cc: Judge Jeffrey Watson, PA PUC Pittsburgh Administrative Law Judge Office



BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

MICHELE HRIADIL and
FRANCIS HRIADIL,

Complainant,

vs.

DUQUESNE LIGHT COMPANY,

Respondent.

No: C-2016-2571726

SET #1 OF
DISCOVERY REQUESTS

Filed by Michele and Francis Hriadil

hriadil@attglobal.net
(412) 779-3314
331 Shady Ridge Drive
Monroeville, PA 15146

SET #1 OF DISCOVERY REQUESTS

TO: RESPONDENT'S GENERAL COUNSEL, JEREMY V FARRELL, ESQUIRE, AND PAUL SHANE MILLER, ESQUIRE.

YOU ARE HEREBY NOTIFIED TO FILE A WRITTEN RESPONSE TO THE WITHIN SET #1 OF DISCOVERY REQUESTS OF COMPLAINANTS MICHELE AND FRANCIS HRIADIL WITHIN TWENTY (20) DAYS OF SERVICE HEREOF, IN ACCORDANCE WITH 52 PA. CODE SS 5.342 AND 5.349(d).



Francis Hriadil
October 5, 2017

DEFINITIONS

A. The terms "You" and "Your" shall mean Respondent Duquesne Light Company and any individual acting on their behalf.

B. The term "Formal Complaint" shall mean the Formal Complaint and all subsequent associated Responses and New Matters (1, 2, 3, and 4) by the Complainants filed against Respondent Duquesne Light with the Pennsylvania Public Utility Commission, Docket No. C-2016-2571726.

C. The term "Document" shall mean any written, typed, printed, graphic, or recorded material that is currently in Your possession, custody, or control or that was formerly in Your possession, custody, or control. A Document is in Your "control" if You have ownership, possession, or custody of the Document or if You have the right to secure the Document or a copy from any person or entity that has possession of it. The term "Document" includes, but is not limited to, electronic mail or email, text messages, social media postings, comments, and messages, medical records, articles, studies, word processed documents, digital presentations, facsimiles, instant messages, calendars, diaries, appointment books, agendas, journals, drafts, voicemail messages, post cards, post-it notes, reports, logs, message slips, invoices, checks, paystubs, letters, memoranda, agreements, contracts, tax returns, bank statements, spreadsheets, video recordings, audio recordings, computer programs, printouts, and all other written, graphic, or electronic materials of any nature whatsoever.

D. The term "Property" shall mean Complainants' residence at 331 Shady Ridge Drive, Monroeville, PA 15146.

E. The term "Smart Meter" shall mean the wireless digital electric meter (i.e. the Duquesne Light / Itron SK9AMI7 OpenWay Centron Smart Meter operating in its Smart Grid Mesh system) that Respondent Duquesne Light is seeking to install at Complainants' Property.

INSTRUCTIONS

- A. You must provide all information that is available to You. This includes not only Your personal knowledge but also all information that is reasonably available to You.
- B. You are requested to produce all responsive Documents that are in Your possession, custody, or control. All Documents must be produced in the same order that they are normally maintained. For each Document, identify which specific discovery request it responds to.
- C. If You object to any discovery request, You must explain the reason(s) for Your objection.
- D. If You do not have any Documents in Your possession, custody, or control that are responsive to a discovery request, You must say so.
- E. In responding to these discovery requests, include all Documents that were obtained by You and anyone acting on Your behalf. If You state that any Document(s) are not within Your possession, custody, or control, describe what effort You made to locate each such Document.
- F. If You state that a Document is not under Your control, identify who has control of the Document and state the Document's location.
- G. You must produce each Document in its entirety even if only part of the Document is responsive to the document request.
- H. These discovery requests are continuing in nature. This means that if You receive or become aware of information that is responsive to any discovery request after You have served Your original answers, You must promptly supplement Your answer and provide that information.

DISCOVERY REQUESTS

1. State all technical, functional, and operational characteristics (i.e. how it actually operates and is operated in the field) of Your Smart Meter (the SK9AMI7) in Your Smart Grid, including but not limited to:
 - a. What versions (standard Meter, Collector Meter, etc.) of Your Smart Meter (the SK9AMI7) are you installing on customer's residences? How are they different?
 - b. What are the makes and models of all wireless communications modules in each version of Your SK9AMI7? What are their purpose, function, capability, and operational characteristics?
 - c. What is the Absolute Peak Power Output of the 900 MHz RF transceiver and the 2.4 GHz Zigbee transceiver in each version of Your SK9AMI7 Smart Meter?
 - d. What is the Gain of the antenna(s) of each version of Your Smart Meter, in the direction of maximum gain, at each of the frequencies of operation (900 MHz, 2.4 GHz)?
 - e. What is the exact Transmission Burst Time interval of each version of Your SK9AMI7?
 - f. What is the complete Duty Cycle range (minimum, average, maximum) of each version of Your Smart Meter (the SK9AMI7), and their corresponding Transmission Times in 24 hours (900 MHz, 2.4 GHz)?
 - g. What is an average and maximum total duration time (in seconds) that each version of Your residential Smart Meter transmits and/or receives any signal in a 24 hour period (900 MHz, 2.4 GHz)? How is this computed or measured?

- h. How many times/transmissions in total (average, maximum) for any purpose is each version of Your Smart Meter configured to transmit during a 24-hour period (900 MHz, 2.4 GHz)?
- i. How many of those times (average and maximum) are to transmit electric usage information?
 - ii. How many of those times (average and maximum) are for other purposes? What are those other purposes?
 - iii. What are the number of times (average and maximum) by type/category of transmission?
- i. Under what scenarios does each version of Your Smart Meter transmit outside of the daily schedule, i.e., transmissions such as on-demand reads, tamper/theft alerts, last gasps, firmware upgrades, etc.?
- j. Typically, how much of the communication between the customer's Smart Meter
 - i. and other Smart Meters in the customer's area grid is unscheduled vs. scheduled?
 - ii. and You (Duquesne Light) is unscheduled vs scheduled?
- k. Are there any other factors that go into determining duration and/or frequency of Your Smart Meter's transmissions (e.g., if a meter can't access the network when it's trying to send usage data, meter ID, etc.)? If yes, please identify these factors.
- l. What is the amount of RF emission at the source of each version of Your Smart Meter when Your Smart Meter is transmitting data (instantaneous maximum peak level, averaged over 30 minutes)?
- m. Does the amount of RF emission vary depending on duration of transmission/volume of data being sent? For example, are RF emissions higher when there is a larger volume of data to be transmitted?
- n. Are there any other factors that impact the amount of RF emissions? If so, please identify the factor(s) and their impact on RF emissions.

- o. Is there RF emission when Your Smart Meter is not transmitting? If yes, what is the amount of RF emission?
- p. Is there a difference in the amount of RF emissions for Your Smart Meter with the transceivers off and a Smart Meter with the transceivers removed and not present? If yes, what is that difference and how is it calculated?
- q. Is there a difference in the amount of RF emissions for Your Smart Meter with the transceivers off and a traditional Analog Meter? If yes, what is that difference and how is it calculated?
- r. Since the SK9AMI7 is programmable, what control methods and capabilities do You have to change, adjust, or modify the Duty Cycle of the SK9AMI7 either directly or remotely?
- s. What is the operational difference between Your standard residential Smart Meter and Your larger Collector Smart Meters?
 - i. Is the customer informed that his/her residence/property has been chosen to house one of Your larger Collector Smart Meters, as opposed to Your standard residential Smart Meter?
 - ii. Is the customer given the option to refuse to house Your Collector Smart Meter?
- t. Describe the function and operation of the Switch-Mode Power supply that supplies power to Your Smart Meter (the SK9AMI7?)
 - i. How does the AC/DC switching circuitry draw power from the customer's line?
 - ii. What voltage spiking, harmonics, additional loads and stresses does this introduce onto the customer's household interior electrical wiring?
 - iii. In addition to the customer's electrical usage, is the customer being charged for the additional power used to operate Your Smart Meter?

u. Do you provide the customer/homeowner with the option to disable the 2.4 GHz Zigbee Transceiver?

ANSWER:

2. Produce all Documents, including but not limited to studies, that relate to Your answer to Discovery Request No. 1.

ANSWER:

3. State all facts that support Your claim that Duquesne Light's installation of a Smart Meter at the Property will not negatively affect the health and/or medical condition(s) of Michele Hriadil, Francis Hriadil, and/or any pets or animals, and/or any visitors including but not limited to the elderly, children, babies, pregnant mothers and their fetuses, etc.

a. What analyses, if any, did You carry out to ensure that the Radiofrequency (RF) radiation, and Low Frequency (LF) radiation induced by the Switch-Mode Power supply, from Your wireless Smart Meter system would be safe for all of Your customers, and those living at or visiting their Property?

i. If You did not carry out any analyses, how then did You establish that Your wireless Smart Meter system is safe for all of Your customers, and those living at or visiting their Property?

b. Did your analysis/assessment consider the Radiofrequency (RF) radiation from a single wireless Smart Meter, or the radiation from all components of Your wireless Smart Meter system including

i. all wireless Smart Meters in a community?

ii. all intermediate wireless relay devices in a community such as any wireless Collector Smart Meters and Repeaters?

iii. all wireless Transmitters/Receivers required to communicate between the intermediate wireless relay devices and Duquesne Light or its agents?

- c. Recognizing that the science indicates there are many conditions that can affect and influence Radiofrequency radiation levels in the home environment, does Your installation account for:
- i. uncertainties about the existing RF environment that exist at a location, such as how much RF exposure already exists at a location?
 - ii. what kind of reflective and re-radiation interior and exterior environments exist at a location? (It is established science that reflections and re-radiation can come from common building materials ((tile, concrete, stainless steel, glass, ceramics)) and highly reflective appliances and furnishings that are common in kitchens, etc.)
 - iii. how interior and exterior space is utilized near walls where the Smart Meters are mounted?
 - iv. the specific physical condition(s) of the residents, and all likely visitors to the residence, including but not limited to age, medical condition(s), disabilities, medical implants, relative health, reliance on critical care equipment that may be subject to electronic interference, etc.?
 - v. the location of Your Smart Meter on the residence in close proximity to, or in co-location with, other Smart Meters on the same building, such as with connected condominiums (like the Complainant's Property), apartment buildings, etc.?
 - vi. unrestrained access to areas of the Property where Your Smart Meter(s) are located?
- d. What if anything is taken into account concerning the installation of Your Smart Meter?
- e. Are customers/homeowners provided with any written notice of the dangers and inherent risks associated with being in close proximity to Your Smart Meter on a regular basis?
- i. Is a safety barrier provided to ensure and maintain the required safe separation distance for all persons, children, animals, etc.?
 - ii. Are there warning labels on Your Smart Meters?

f. As a responsible corporate resident of the state of Pennsylvania, concerned with providing adequate, efficient, safe, and reasonable service for the accommodation, convenience, and safety of its patrons, to what extent are You aware of and acknowledge the numerous reports, statements, and warnings by respected and prestigious organizations such the World Health Organization (WHO), the National Institutes of Health (NIH), the National Toxicology Program (NTP), the American Cancer Society (ACS), the American Academy of Pediatrics (AAP), the American Academy of Environmental Medicine (AAEM), etc., as well as numerous experts in the medical and technology fields, with regard to the exposure of Your customers to regular and frequent pulsed Radiofrequency (RF) radiation and Low Frequency (LF) radiation from Your Smart Meter system?

ANSWER:

4. Produce all Documents, including but not limited to studies, that relate to Your answer to Discovery Request No. 3.

ANSWER:

5. Do You stand behind and guarantee Your claim that "Your wireless Smart Meter system is harmless"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for all health and medical consequences that occur as a result of Your wireless Smart Meter system?

ANSWER:

6. To the extent not articulated in Your response to the preceding requests, state all facts that support Your claim that Duquesne Light's installation of a Smart Meter at the Property does/will not pose a reliability, safety, or quality problem.

- a. What are the physical elements, components, and materials used in the construction of Your electrical Smart Meter? Electronic components? Circuit boards? Flammable materials?
- b. In the United States, Authorities Having Jurisdiction (AHJs) assert that certification of electrical equipment is necessary and that Underwriters Laboratories is the preferred safety certification organization. Does a UL Mark appear on Your Smart Meter?
- c. Can overheating of the electronic components and flammable materials inside of Your Smart Meters cause the components to degrade, expand, "pop", smoke, burst into flame, burn, and/or explode, with a single occurrence or repeatedly over time?
- d. Does Your Smart Meter contain anything to warn the homeowner of overheating, fire danger, or explosion?
- e. Has destructive testing been carried out on Your Smart Meter?
 - i. If so, what were/are the failure modes/mechanisms? What were/are the occurrences of overheating, smoking, burning, popping, and explosions when the Smart Meter components are overstressed?
 - ii. If not, how do you know what the failure modes of Your Smart Meters are, and how do you know they are safe?
- f. Does Your Smart Meter provide Circuit Breaker protection for the homeowner?
- g. Does Your Smart Meter provide Surge Arrestors designed to withstand and protect the homeowner's internal electrical system and connected appliances from large voltage surges and other events originating on the utility-side electrical grid?

- h. How does Your Smart Meter compare with the innate ability of the traditional strictly Analog Meter to protect the homeowner from large voltage surges and other events originating on the utility-side electrical grid?
- i. What measures exist in Your Smart Meters to assure safe and reliable operation, and prevent degradation over time, due to power surges and environmental factors such as debris, humidity, vibration, salt water, etc. which can lead to the occurrence of "hot sockets" that is superior to the traditional strictly Analog Meter?
- j. To what degree is Your Smart Meter susceptible to damage from "hot sockets" as compared with the traditional strictly Analog Meter?
- k. What risks and responsibilities do You assume, and what risks and responsibilities does the homeowner assume, once Your Smart Meter is installed on their residence, as many insurance companies will not cover fires related to Smart Meter failures?
- i. Do You assume any responsibility for damage done to the customer's/homeowner's electrical wiring, electrical appliance, utility meter box, building structure, etc. due to voltage surges or other events originating on the utility-side electrical grid?
- ii. Are customers/homeowners informed of these risks and responsibilities?
- l. Thousands of fires have been documented in PA, CA, TX, FL, NV, IL, and across Canada in buildings after the installation of Smart Meters, including Your Smart Meter (the SK9AMI7). Property has been damaged, and there have been injuries and fatalities. Causes have been attributed to power/voltage surges, overheating, and old building wiring. To what extent are You aware of and acknowledge these occurrences, and what specific measures have you instituted to ensure the safety of your customers?
- m. How many SK9AMI7 Smart Meters have been removed or recalled from the field for reasons of quality, safety, and reliability?

ANSWER:

7. To the extent they have not been previously requested or produced, produce all Documents that relate to Your response to Discovery Request No. 6.

ANSWER:

8. Do You stand behind and guarantee Your claim that “Your wireless Smart Meter system is safe and reliable”? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any and all property damage and personal harm, etc. that occurs as a result of Your wireless Smart Meter system?

ANSWER:

9. State all facts that support Your claim that Duquesne Light's manner of installing its Smart Meters is safe.

a. Installations are not being carried out by Duquesne Light certified electricians.

Duquesne Light has subcontracted its Smart Meter installation out to contractors who deploy installer technicians with varying degrees of training and expertise, such as Wellington Power Corporation.

i. How much education, experience, and what specific training do the installer technicians subcontracted by Duquesne Light have, and what, if any, are their certifications?

ii. What quality control measures are in place to ensure that their education and training is sufficient and properly maintained, and that the proper installation protocols are being followed?

b. The installation of Your Smart Meters has been directly witnessed and observed by many, including myself. The focus is on speed of deployment in a neighborhood (deploying as many devices as possible in the shortest time), not safety. The meters are just simply and quickly changed out in what is called a "hot install."

i. What is Duquesne Light's specific installation protocol and procedure that is followed to ensure the safety of its customers/homeowners?

ii. What measures has Duquesne Light instituted to make sure that this protocol and procedure are being properly and consistently followed in the field?

iii. Does Duquesne Light condone and authorize the use of a "hot install"?

iv. How does Duquesne Light protect its customers/homeowners and their property from the potential of "electric flash, arcing, or sparking" upon a "hot install"?

c. Are the customer's/homeowner's neutral connections considered and checked by a certified electrician for damage or corrosion prior to installation?

i. If so, how is this inspection done and what does it involve?

- d. Are the age and condition of the customer's/homeowner's electrical system, wiring, and meter box bases considered and checked by a certified electrician prior to installation of Your Smart Meter to ensure that the sockets and house wiring is compatible with the installation of your Smart Meter?
- i. If so, how is this inspection done and what does it involve?
 - ii. How many residences have failed this inspection?
 - iii. What are the observed frequencies and occurrences of
 - aa. damage or melting around the meter tabs/blades?
 - bb. pitting in the socket jaws?
 - cc. loss of spring tension in the socket jaws?
 - dd. oxidation on the lug wires?
 - ee. evidence of arcing?
 - ff. sockets that are unsafe or not up to code?
 - gg. other abnormal conditions?
 - iv. What other safety related issues have been observed?
 - v. How has Duquesne Light addressed these safety related issues when they occurred?
- e. What testing for "hot sockets" is performed during the installation of Your Smart Meter?
- f. Is the electric power to the residence turned off at the utility pole, etc. during the installation of Your Smart Meter to protect the customer's/homeowner's electrical system and appliances from damage due to the installation process? If not, why not?
- g. Is the general protocol that the installation is carried out irrespective of the condition of the residence and its electrical system? If not, how not?

ANSWER:

10. Produce all Documents that relate to Your response to Discovery Request No. 9.

ANSWER:

11. Do You stand behind and guarantee Your claim that "Your manner of installing Your Smart Meters is safe"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any and all property damage and personal harm, etc. that occurs as a result of the installation of Your wireless Smart Meter?

ANSWER:

12. State all facts that support Your claim that Duquesne Light's installation of a Smart Meter at the Property is reliable and secure.

a. With everyone from individuals in the home to secure government installations being the targets of ongoing cyber attacks, that are routinely reported in the press, by law enforcement, and in trade journals, which have resulted in the loss of "secure" identity, medical, financial, etc. information, incurring, at times, massive and devastating personal, financial, business, etc. damage and loss, and in which experts in the security field such as Former CIA Director James Woolsey have repeatedly issued dire warnings, what justification can You provide that Your security protocols for Your Smart Meter system are effective, are any different, and any better than the best security systems in the country which have already been breached?

b. How is the security of our personal information, of the electricity to our Property, of the electrical infrastructure of the state of Pennsylvania not made significantly more vulnerable by the deployment and proliferation of hundreds of thousands to millions of wireless programmable end-metering devices, such as Your Smart Meters, and Your Collector Meters, Your Repeaters, Your Data Storage Centers, etc, which are effectively hundreds of thousands to millions of open portals into the electrical energy infrastructure of the state?

c. Has the delivery of electricity to any of Your customers been unintentionally interrupted by a shutdown switch

i. that You did not trigger with a wireless signal?

iii. that You triggered accidentally with a wireless signal?

- d. Have there been any attempts at cyber hacking of Your wireless Smart Meter system?
 - i. If yes, what were the nature and outcome of these attempts?
 - ii. If yes, have You incurred any costs as a result of such hacking
 - aa. from lost revenue?
 - bb. in identifying the specific cyber vulnerability that enabled the hacking?
 - cc. for software or hardware revisions to correct the cyber vulnerability?
 - dd. for replacing, recalling, or modifying Your Smart Meters?
 - iii. If You have incurred costs as a result of hacking, were those costs passed on to Your customers?

ANSWER:

13. Produce all Documents that relate to Your response to Discovery Request No. 12.

ANSWER:

14. Do You stand behind and guarantee Your claim that "Your Smart Meter system is secure"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any and all Property damage and personal harm, etc. that occurs as a result of the hacking, breach, or abuse of Your Smart Meter security system?

ANSWER:

15. Given the controversial nature of wireless Smart Meter deployment, and the increasing negative reports and warnings appearing in the press, and in medical and trade publications, state the facts indicating that the installation of Your Smart Meter will not have a negative impact on the value of our Property?

ANSWER:

16. Produce all Documents that relate to Your response to Discovery Request No. 15.

ANSWER:

17. Do You stand behind and guarantee Your claim that "Your Smart Meter system will not negatively affect the value of our Property"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any loss in value of our Property that occurs as a result of the installation of Your Smart Meter system?

ANSWER:

18. What is the nature and specificity of the customer data being collected by Your Smart Meter system, and how do You intend / plan to use that customer data?

- a. Will this personal data only be used for billing purposes internal to Duquesne Light?
- b. What protections are in place to ensure the privacy of this personal data?
- c. If this personal data is to be used for other than billing purposes, what are those purposes, and will this be done only with the knowledge and written consent of the customer/homeowner?
- d. Will this personal data be used to monitor and/or profile the customer/homeowner?
- e. Have You received any requests for this personal data from any individual, company, or organization for the purposes of profiling, data-mining, etc.?
- f. Have You offered this personal data to any individual, company, or organization?
- g. Have You sold this personal information to any individual, company, or organization?
- h. Do You have plans in the future to market this personal data in any way for the purposes of creating new income streams?

ANSWER:

19. Produce all Documents that relate to Your response to Discovery Request No. 18.

ANSWER:

20. Do You stand behind and guarantee Your claim that "our personal data collected by Your Smart Meter system will remain secure and private within Duquesne Light"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any loss, abuse, or misuse of our personal data, and any use of our personal information for other than billing purposes without our knowledge and written consent, that is collected and stored by Your Smart Meter system?

ANSWER:

21. How many incidents have occurred, and how many customers have filed concerns and complaints with Duquesne Light, concerning Your Smart Meters with regards to, but not limited to,

- a. health?
- b. safety, reliability, and fires?
- c. privacy?
- d. security?
- e. electrical and device interference?
- f. increased and increasing electrical bills, and over-billing charges?

What were the specifics of these incidents or complaints?

ANSWER:

22. Has Duquesne Light provided any relief or accommodation from their Smart Meter system to any individual, official, group, community, organization, etc. for any reason at any time?

- a. If so, list those individuals, officials, groups, communities, organizations, etc., and the reasons for that relief or those accommodations?

ANSWER:

23. To the extent not previously requested or produced, produce all Documents that You intend to offer into evidence at any hearing in this matter.

ANSWER:

24. State the full name, title, affiliation, address, and telephone number of each person who You expect to call to testify at any hearing of this matter.

ANSWER:

25. State the full name, title, affiliation, address, and telephone number of each person who You expect to call to testify as an expert witness at any hearing of this matter and, for each expert witness, state:

- a. The subject matter on which the expert is expected to testify;
- b. The substance of the facts and opinions to which the expert is expected to testify; and
- c. A summary of the grounds for each expert opinion.

ANSWER:

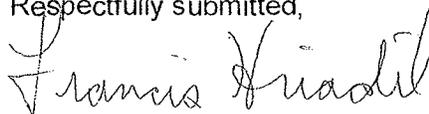
26. Produce the report of any expert You intend to call to testify on Your behalf at trial.

ANSWER:

27. Produce the curriculum vitae of any expert that You intend to call to testify on your behalf at trial.

ANSWER:

Respectfully submitted,



Francis Hriadil
(412) 779-3314
331 Shady Ridge Drive
Monroeville, PA 15146
October 5, 2017

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

MICHELE HRIADIL and
FRANCIS HRIADIL,

Complainants,

No: C-2016-2571726

v.

DUQUESNE LIGHT COMPANY,

Respondent.

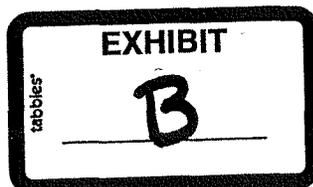
**RESPONDENT'S RESPONSES TO
SET #1 OF DISCOVERY REQUESTS**

Filed on Behalf of:
Duquesne Light Company

Counsel of Record for this Party:

Jeremy V. Farrell, Esquire
PA. ID. No. 316258
Paul Shane Miller, Esquire
PA. I.D. No. 319174

Tucker Arensberg, P.C.
1500 One PPG Place
Pittsburgh PA 15222
(412) 566-1212



information provided and/or documents produced. In the event that any privileged information is divulged by Duquesne Light, its disclosure is inadvertent and does not constitute a waiver of any privilege.

5. Duquesne Light's responses to the specific Discovery Requests are written in bold font below.

DISCOVERY RESPONSES

1. State all technical, functional, and operational characteristics (i.e. how it actually operates and is operated in the field) of Your Smart Meter (the SK9AMI7) in Your Smart Grid, including but not limited to:

a. What versions (standard Meter, Collector Meter, etc.) of Your Smart Meter (the SK9AMI7) are you installing on customer's residences? How are they different?

Duquesne Light is installing the HW 3.1 OpenWay CENTRON singlephase meter on all residential structures within its service territory.

b. What are the makes and models of all wireless communications modules in each version of Your SK9AMI7? What are their purpose, function, capability, and operational characteristics?

The 900MHz communication module within the OpenWay CENTRON meters being installed in Duquesne Light's service territory is an Itron-designed proprietary circuit board. The 2.4GHz wireless interface is also an Itron proprietary design and integrated to the meter register circuit board. Both of the radios fall under the FCC ID: SK9AMI7. It is unclear what specific additional information is being sought by this request, but see Duquesne Light's responses to the remaining requests for additional information.

c. What is the Absolute Peak Power Output of the 900 MHz RF transceiver and the 2.4 GHz Zigbee transceiver in each version of Your SK9AMI7 Smart Meter?

The technical details for both radios in SK9AMI7 are shown below:

Technical Information 900 MHz LAN Radio

Antenna Type: Quarter Wave Embedded Slot Antenna

Antenna Gain: 2.2dBi

Transmitter Conducted Power: 28.38dBm, 688.65mW

Maximum System EIRP: 30.58dBm, 1142.88mW

Technical Information 802.15.4 Zigbee Radio

Antenna Type: Quarter Wave Embedded Slot Antenna
Antenna Gain: 3.8dBi
Transmitter Conducted Power: 18.13dBm, 65.01mW
Maximum System EIRP: 21.93dBm, 155.96mW

d. What is the Gain of the antenna(s) of each version of Your Smart Meter, in the direction of maximum gain, at each of the frequencies of operation (900 MHz, 2.4 GHz)?

See response to Discovery Request #1(c).

e. What is the exact Transmission Burst Time interval of each version of Your SK9AMI7?

The OpenWay network deployed within Duquesne Light’s service territory operates as a frequency-hopping, mesh network. When transmitting, each device will transmit for up to 150 milli-seconds in each time slot.

f. What is the complete Duty Cycle range (minimum, average, maximum) of each version of Your Smart Meter (the SK9AMI7), and their corresponding Transmission Times in 24 hours (900 MHz, 2.4 GHz)?

The transmit duty cycle for the 900MHz radio within the OpenWay network deployed within Duquesne Light’s service territory will vary based on a number of factors, including, but not limited to, where in the mesh network topology the meter is located, the quality of the radio links to neighboring meters, and the level of interference present. Therefore, the most accurate way to estimate the transmit duty cycle is from a statistically significant sample of a representative deployment. The table below shows the Mean, Maximum, Minimum and Median transmit duty cycle for a sample of approximately 7,000 meters over a representative 24-hour window of operation.

	Duty Cycle	Time
Mean	0.06%	53.14 seconds per day
Maximum	0.58%	497.8 seconds per day
Minimum	0.02%	18.31 seconds per day
Median	0.06%	49.81 seconds per day

The OpenWay meter’s 2.4GHz Zigbee radio communicates with other HAN (Home Area Network) devices. The table below shows the measured transmission times for an idle Zigbee radio and a Zigbee radio with one of two

sample devices joined to the meter. Duquesne Light's expects that, for current deployments, the average meter will have either zero (idle) or one HAN device attached to it.

	Duration of transmission in a 24-hour period	Duty Cycle
Idle Zigbee Radio (no devices joined)	9.9 seconds	0.01%
Meter with Tendril IHD (In Home Display)	132 seconds	0.15%

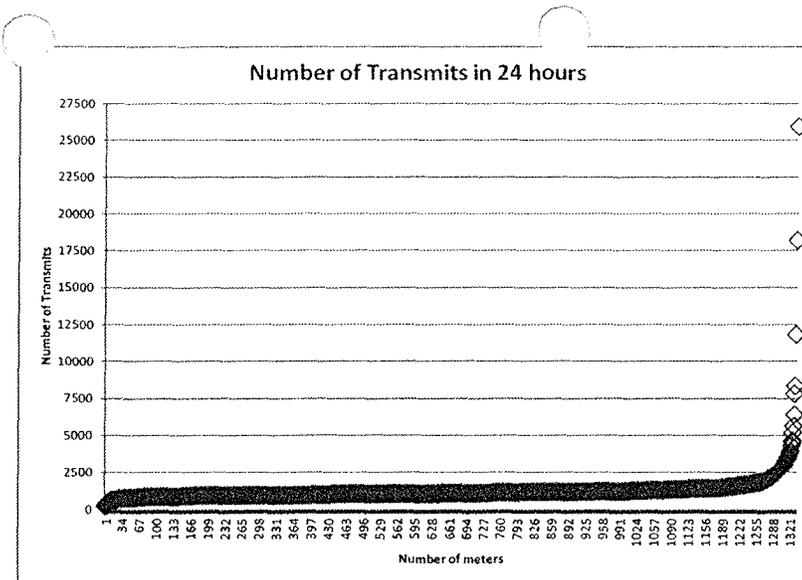
g. What is an average and maximum total duration time (in seconds) that each version of Your residential Smart Meter transmits and/or receives any signal in a 24 hour period (900 MHz, 2.4 GHz)? How is this computed or measured?

See response to Discovery Request #1(f).

h. How many times/transmissions in total (average, maximum) for any purpose is each version of Your Smart Meter configured to transmit during a 24-hour period (900 MHz, 2.4 GHz)?

This will vary depending on business process, which will determine how read schedules are set up. Typically, there are three to four scheduled reads from each meter in a 24-hour period. With a hierarchical cell structure, meters will relay upstream and downstream traffic within the RF mesh. The total number of transmissions will include the scheduled reads, on-demand reads, and alarms/alerts along with the network traffic needed for command and control (synchronization, security, data integrity and dynamic network resiliency). Based on data gathered from a large, representative OpenWay network deployment (two load profile reads + one register read + one event read per day), the total transmissions are:

- The average number of transmissions in a 24-hour period is approximately 1,268 (less than 1 time/minute);
- The maximum number of transmissions in a 24-hour period is approximately 25,916 (18 times/minute or about once every 3.3 seconds);
- Looking at the distribution of the field data gathered, only a small percentage of the meter population will transmit near the maximum value. In fact, 97 percent of the meters in this random sample transmitted less than 2,500 times in a 24-hour period.



- i. How many of those times (average and maximum) are to transmit electric usage information?

This will vary depending on business process, which will determine how read schedules are set up. Typically, there are two or three scheduled reads for usage data from each meter in a 24-hour period.

- ii. How many of those times (average and maximum) are for other purposes? What are those other purposes?

This will vary with business process, which will determine how read schedules are set up. Typically, there are two or three scheduled reads for purposes other than returning usage data from each meter in a 24-hour period. These are typically for doing a register read and/or events read. The balance of the transmissions are for network command and control: synchronization, security, data integrity and dynamic network resiliency.

- iii. What are the number of times (average and maximum) by type/category of transmission?

Detailed analysis of the type/category of transmissions has not been completed. One data point from the gathered field data is that, on average, the segmentation between meter data transmissions (scheduled and/or on-demand) and network command and control (synchronization, security, data integrity and dynamic network resiliency) is expected to be:

- Transmissions of meter data: 10%
- Transmissions for network command/control: 90%

i. Under what scenarios does each version of Your Smart Meter transmit outside of the daily schedule, i.e., transmissions such as on-demand reads, tamper/theft alerts, last gasps, firmware upgrades, etc.?

Duquesne Light cannot reasonably determine what information is sought by the “etc.” abbreviation and provides the following information in response to the remaining portions of Discovery Request #1(i):

- **On-Demand Reads:** These reads are outside of the daily read cycle and will be fully dependent on business processes. Each On-Demand read will generate one downstream and one upstream packet with average transmission duration of 125mSec.
- **Tamper/Theft Alerts:** These alerts vary based on the environment of the deployment. Each event will generate a single upstream packet with average transmission duration of 18 mSec.
- **Last Gasp:** This will be highly dependent on the frequency and extent of the power outages in the coverage area. Each meter will send three last gasp messages when a power outage is detected with average transmission duration of 18 mSec.
- **Firmware Download:** Firmware downloads over the RFLAN are typically done once a year (reflecting major system releases). The firmware download process is a background activity for the network typically spanning from 12 hours to 12 days (depending on the number/type of firmware modules downloaded). Measurements at the Itron meter farm indicate the firmware download adds approximately 2% overhead to the network traffic. For example, a download of 347KB register firmware will take up to 8 days. On a 1G RFLAN system with 150 Byte packets, this results in:
 - $347,000 \text{ Bytes} / 150 \text{ Bytes/Pkt} = 2,313 \text{ Pkts}$
 - $2,313 \text{ Pkts} / 8 \text{ Days} = 289 \text{ Pkts/Day} (12 \text{ Pkts/Hour})$
 - Each packet represents one downstream broadcast transmission of approximately 150 mSec.
- **Network Synchronization:** The nature of an RF mesh network requires that meters maintain communications with their neighbor meters to ensure the stability, self-healing and integrity of the network. A good example of this is timing synchronization where meters send their neighbor meters time-synchronization packets at regular intervals to ensure all of the devices in the network are synchronized for time slot usage. Time-synchronization packets are sent approximately every 93 seconds with average transmission duration of 18 mSec.

Meter

j. Typically, how much of the communication between the customer's Smart

i. and other Smart Meters in the customer's area grid is unscheduled vs. scheduled?

See response to Discovery Request #1(h)(iii).

ii. and You (Duquesne Light) is unscheduled vs scheduled?

The majority of the communications between the customer's meter and the utility is based on scheduled data requests (interval data read, register reads, events read, network statistics read). The amount of communication for on-demand reads and events will be highly dependent on business processes and the environment of the deployment (e.g., outage and tamper events). The network overhead does not represent communication between a meter and the utility (i.e., does not route back to the head end system). These overhead transmissions are required for the proper operation of the dynamic, self-healing RF mesh. The 53 seconds that an average OpenWay meter transmits in one day includes all of the communications described above.

k. Are there any other factors that go into determining duration and/or frequency of Your Smart Meter's transmissions (e.g., if a meter can't access the network when it's trying to send usage data, meter ID, etc.)? If yes, please identify these factors.

When meters first join a network, they go through a sequence of three discovery beaconing phases to find the network and appropriate neighbor devices to sponsor them on to the network. Each of the phases are described below:

- Phase 1 of Discovery: approximate 9 minute duration; 156 cycles of 1.04 seconds of beaconing (20ms beacon on each of 52 channels); followed by 2.5 seconds of listening (no transmissions).**
- Phase 2 of Discovery: approximate 55 minute duration; 99 cycles of 1.04 seconds of beaconing; followed by 32.5 seconds of listening.**
- Phase 3 of Discovery: Remaining time until it joins the network; continuous cycles of 1.04 seconds of beaconing; followed by 1 hour, 2.5 seconds of listening.**

Once on the network, the meter will behave as outlined above.

I. What is the amount of RF emission at the source of each version of Your Smart Meter when Your Smart Meter is transmitting data (instantaneous maximum peak level, averaged over 30 minutes)?

The limits for Maximum Permissible Exposure (MPE) established by the FCC account for a 20cm distance from the source to the measurement point. The RF emissions for the OpenWay meters deployed by Duquesne Light without this 20cm distance (at the antenna source) are:

900 MHz LAN Radio

- Transmitter Conducted Power: 28.38dBm, 688.65mW
- Antenna Gain: 2.2dBi
- Maximum System EIRP: 30.58dBm, 1142.88mW
- With 1 percent duty cycle over 30 minute interval: 1.143mW

2.4GHz Radio

- Transmitter Conducted Power: 18.13dBm, 65.01mW
- Antenna Gain: 3.8dBi
- Maximum System EIRP: 21.93dBm, 155.96mW
- With 1 percent duty cycle over 30 minute interval: 1.56mW

Note: The maximum observed duty cycle was 0.58%. This has been rounded up to 1 percent.

m. Does the amount of RF emission vary depending on duration of transmission/volume of data being sent? For example, are RF emissions higher when there is a larger volume of data to be transmitted?

No. The level of RF emissions (radiated power level) is fixed and the levels are shown in the response to Discovery Request #1(c). Only the duration of transmission will vary with the amount of data being sent.

n. Are there any other factors that impact the amount of RF emissions? If so, please identify the factor(s) and their impact on RF emissions.

The factors impacting RF emissions have been discussed above.

o. Is there RF emission when Your Smart Meter is not transmitting? If yes, what is the amount of RF emission?

Yes. All solid state electronic devices emit RF emissions due to processor clock signals and power supplies (such as televisions, DVD players, cell phones, computers and solid state meters). These types of unintentional emissions have limits set by the FCC in the Code of Federal Regulations, Title

47, Part 15 (47 CFR 15), Subpart B, Class B Devices. The smart meters being installed in Duquesne Light's service territory are tested and validated to be compliant with these FCC requirements.

p. Is there a difference in the amount of RF emissions for Your Smart Meter with the transceivers off and a Smart Meter with the transceivers removed and not present? If yes, what is that difference and how is it calculated?

No. When the radio is off, it does not transmit. The unintentional RF signals from the meter's solid state electronics will remain virtually unchanged with the radio turned off or removed.

q. Is there a difference in the amount of RF emissions for Your Smart Meter with the transceivers off and a traditional Analog Meter? If yes, what is that difference and how is it calculated?

Since smart meters are solid state electronic devices and Ferrous meters are electro-magnetic devices, their behavior is different and, to the best of Duquesne Light's knowledge, a comparison has therefore not been undertaken. Both devices, however, must comply with the same FCC regulations.

r. Since the SK9AMI7 is programmable, what control methods and capabilities do You have to change, adjust, or modify the Duty Cycle of the SK9AMI7 either directly or remotely?

The Duty Cycle of the Itron OpenWay meters has been established using a large population of deployed meters with a typical daily read schedule to ensure validity. This read schedule can be modified. Studies have not been undertaken to quantify the difference in Duty Cycle when the read schedule of the meters is modified. The expectation is that there will be minimal variance in the Duty Cycle with typical changes to read schedules.

s. What is the operational difference between Your standard residential Smart Meter and Your larger Collector Smart Meters?

Duquesne Light does not use a collector smart meter.

i. Is the customer informed that his/her residence/property has been chosen to house one of Your larger Collector Smart Meters, as opposed to Your standard residential Smart Meter?

See response to Discovery Request #1(s).

ii. Is the customer given the option to refuse to house Your Collector Smart Meter?

See response to Discovery Request #1(s).

t. Describe the function and operation of the Switch-Mode Power supply that supplies power to Your Smart Meter (the SK9AMI7)?

The power supply is used to convert AC voltage to DC voltage to operate electronics in the meter. The HW 3.1 OpenWay Centron singlephase meter uses a capacitive switcher to drive a linear which then drives a buck convertor.

i. How does the AC/DC switching circuitry draw power from the customer's line?

Power supplied to the meter to energize meter electronic circuits is drawn from the line side terminals (utility side) of the meter. Utility customers are not charged for the power consumed by the meter.

ii. What voltage spiking, harmonics, additional loads and stresses does this introduce onto the customer's household interior electrical wiring?

Interior electrical wiring is the responsibility of the customer and/or homeowner and can vary by location. The smart meters being installed within Duquesne Light's service territories comply with the limits established by the FCC and have been validated by several outside laboratories, including UL.

iii. In addition to the customer's electrical usage, is the customer being charged for the additional power used to operate Your Smart Meter?

No.

u. Do you provide the customer/homeowner with the option to disable the 2.4GHz Zigbee Transceiver?

No.

2. Produce all Documents, including but not limited to studies, that relate to Your answer to Discovery Request No. 1.

The following documents are attached:

- **FCC RF Exposure Report for SK9AMI7**
- **OpenWay Wireless Transmissions 24 Hour Duty Cycle**
- **AMI7 EMC Report**
- **Duquesne Light's Final Smart Meter Plan - dated June 29, 2012**
- **Duquesne Light's Petition for Approval of Settlement - dated December 7, 2012**
- **Opinion and Order of the Pennsylvania Public Utility Commission - entered May 6, 2013**

- Petition of Duquesne Light Company to Modify its Smart Meter Plan - dated August 4, 2015
- Initial Decision of Administrative Law Judge Katrina Dunderdale - dated October 31, 2016
- Opinion and Order of the Pennsylvania Public Utility Commission on Duquesne Light's Petition for Approval to Modify its Smart Meter Plan - entered April 7, 2017
- Duquesne Light's Responses to Interrogatories of the Office of Consumer Advocate - Set III
- An Investigation of Radiofrequency Fields Associated with the Itron Smart Meter
- Application for Approval of Duquesne Light's Assessment of Needs, Technology Solutions and Vendor Selection
- Smart Meter Q&A
- Understanding Radiofrequency and Your New Meter
- Myths vs. Facts: The Truth About Smart Meters
- Data Privacy and Your New Meter
- Duquesne Light's Privacy Policy
- UL Online Certification Directory.

3. State all facts that support Your claim that Duquesne Light's installation of a Smart Meter at the Property will not negatively affect the health and/or medical condition(s) of Michele Hriadil, Francis Hriadil, and/or any pets or animals, and/or any visitors including but not limited to the elderly, children, babies, pregnant mothers and their fetuses, etc.

Duquesne Light is required by law to install smart meters throughout its service territory, which includes Complainants' home. The company's smart meter procurement and implementation plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is safe, reasonable, and in compliance with the law. Furthermore, the smart meters being installed in Duquesne Light's service territory meters are compliant with the applicable FCC regulations for both intentional and unintentional radiation. See also the documents being produced in connection with Duquesne Light's discovery responses. Duquesne Light cannot reasonably determine what information is sought by the "etc." abbreviation and relies on its responses set forth above and below.

a. What analyses, if any, did You carry out to ensure that the Radiofrequency (RF) radiation, and Low Frequency (LF) radiation induced by the Switch-Mode Power supply, from Your wireless Smart Meter system would be safe for all of Your customers, and those living at or visiting their Property?

See response to Discovery Request #3.

i. If You did not carry out any analyses, how then did You

establish that Your wireless Smart Meter system is safe for all of Your customers, and those living at or visiting their Property?

See the response to the preceding Discovery Request.

b. Did your analysis/assessment consider the Radiofrequency (RF) radiation from a single wireless Smart Meter, or the radiation from all components of Your wireless Smart Meter system including

- i. all wireless Smart Meters in a community?
- ii. all intermediate wireless relay devices in a community such as any wireless Collector Smart Meters and Repeaters?
- iii. all wireless Transmitters/Receivers required to communicate between the intermediate wireless relay devices and Duquesne Light or its agents?

As required by the FCC, Itron assessed all of the active radios within the device. As with any other FCC-compliant device, Duquesne Light is not responsible for deployment of other devices in proximity of the meters. Itron has published a white paper that specifically addresses the levels of RF exposure from meter banks: "The Facts on RF Exposure from Meter Banks." A key factor highlighted in this paper is that the RF levels fall off very quickly over distance. This results in minimal additive levels of RF exposure from multiple devices in a given area.

c. Recognizing that the science indicates there are many conditions that can affect and influence Radiofrequency radiation levels in the home environment, does Your installation account for:

Before responding to each individual request below, Duquesne Light notes that this request is not only argumentative, but also overly broad with respect to what it contends that "science" indicates. Furthermore, Duquesne Light exercises responsibility for its equipment, but customers and/or homeowners are responsible for the internal circuitry and appliances that are located within a particular structure.

- i. uncertainties about the existing RF environment that exist at a location, such as how much RF exposure already exists at a location?

No.

- ii. what kind of reflective and re-radiation interior and exterior environments exist at a location? (It is established science that

reflections and re-radiation can come from common building materials ((tile, concrete, stainless steel, glass, ceramics)) and highly reflective appliances and furnishings that are common in kitchens, etc.)

No.

iii. how interior and exterior space is utilized near walls where the Smart Meters are mounted?

No.

iv. the specific physical condition(s) of the residents, and all likely visitors to the residence, including but not limited to age, medical condition(s), disabilities, medical implants, relative health, reliance on critical care equipment that may be subject to electronic interference, etc.?

No.

v. the location of Your Smart Meter on the residence in close proximity to, or in co-location with, other Smart Meters on the same building, such as with connected condominiums (like the Complainant's Property), apartment buildings, etc.?

No.

vi. unrestrained access to areas of the Property where Your Smart Meter(s) are located?

This request is so vague that Duquesne Light cannot reasonably be expected to form a complete response. See Duquesne Light's response to the preceding Discovery Requests.

d. What if anything is taken into account concerning the installation of Your Smart Meter?

This request is so vague that Duquesne Light cannot be reasonably expected to form a complete response, but Duquesne Light considers safety, reliability, and efficiency when installing smart meters throughout its service territory.

e. Are customers/homeowners provided with any written notice of the dangers and inherent risks associated with being in close proximity to Your Smart Meter on a regular

basis?

This request is argumentative and Duquesne Light disagrees with the premise of this request, which is that there is a danger and/or inherent risk of being in some undefined "close proximity" to the smart meters being installed throughout its service territory.

i. Is a safety barrier provided to ensure and maintain the required safe separation distance for all persons, children, animals, etc?

No.

ii. Are there warning labels on Your Smart Meters?

The Smart Meter contains a standard message that warns against introducing currents at voltages above the meter's design tolerance.

f. As a responsible corporate resident of the state of Pennsylvania, concerned with providing adequate, efficient, safe, and reasonable service for the accommodation, convenience, and safety of its patrons, to what extent are You aware of and acknowledge the numerous reports, statements, and warnings by respected and prestigious organizations such the World Health Organization (WHO), the National Institutes of Health (NIH), the National Toxicology Program (NTP), the American Cancer Society (ACS), the American Academy of Pediatrics (AAP), the American Academy of Environmental Medicine (AAEM), etc., as well as numerous experts in the medical and technology fields, with regard to the exposure of Your customers to regular and frequent pulsed Radiofrequency (RF) radiation and Low Frequency (LF) radiation from Your Smart Meter system?

This request does not refer to any specific documents and is so vague that Duquesne Light cannot be reasonably expected to form a complete response, but Duquesne Light is generally aware that various entities have produced publications relating to RF and LF.

4. Produce all Documents, including but not limited to studies, that relate to Your answer to Discovery Request No. 3.

The following documents are attached:

- **RF Safety Compliance of OpenWay Smart Meters and the CG-Mesh IPv6 Network**

- **The Facts on RF Meter Banks.**

5. Do You stand behind and guarantee Your claim that "Your wireless Smart Meter system is harmless"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for all health and medical consequences that occur as a result of Your wireless Smart Meter system?

This request is vague, ambiguous, and lacks a factual foundation as it does not indicate how or when Duquesne Light made the alleged statement in question. Duquesne Light reiterates that it is required by law to install smart meters throughout its service territory, which includes Complainants' home. The company's smart meter procurement and implementation plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is safe, reasonable, and in compliance with the law. Duquesne Light's alleged liability for any acts or omissions will be adjudicated through the appropriate legal proceedings based on the facts of each case.

6. To the extent not articulated in Your response to the preceding requests, state all facts that support Your claim that Duquesne Light's installation of a Smart Meter at the Property does/will not pose a reliability, safety, or quality problem.

See response to Discovery Request #5.

a. What are the physical elements, components, and materials used in the construction of Your electrical Smart Meter? Electronic components? Circuit boards? Flammable materials?

The terms used in this request are vague. Duquesne Light offers the following table, which lists the common material used in the HW 3.1 OpenWay CENTRON meter:

CEN-II	
<i>Component</i>	<i>Material</i>
Base and Switch Cover	PET RYNITE FR 515
Outer Cover, Inner Covers, OEM Support and Register Display	Polycarbonate
Electrical components: resistors, capacitors, diodes, transistors, integrated chips (IC)	Common supported materials used to manufacture electrical components

Printed Circuit Boards	Fiberglass epoxy resin with copper foil
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b. In the United States, Authorities Having Jurisdiction (AHJs) assert that certification of electrical equipment is necessary and that Underwriters Laboratories is the preferred safety certification organization. Does a UL Mark appear on Your Smart Meter?

No, but the HW 3.1 OpenWay CENTRON singlephase was UL 2735 tested and approved on May 30, 2015.

c. Can overheating of the electronic components and flammable materials inside of Your Smart Meters cause the components to degrade, expand, "pop", smoke, burst into flame, burn, and/or explode, with a single occurrence or repeatedly over time?

Duquesne Light cannot and will not speculate as to what might happen to the components of a smart meter based on a vague and unidentified set of facts. As noted by the responses to the preceding Discovery Requests, the smart meters being installed in Duquesne Light's service territory fall within the limits established by the FCC, have been tested and approved by UL, and the company's smart meter procurement and implementation plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is reasonable, safe, and in compliance with the law.

d. Does Your Smart Meter contain anything to warn the homeowner of overheating, fire danger, or explosion?

The Smart Meter contains a standard message that warns against introducing currents at voltages above the meter's design tolerance.

e. Has destructive testing been carried out on Your Smart Meter?

This question is so vague that Duquesne Light cannot reasonably be expected to form a complete response.

i. If so, what were/are the failure modes/mechanisms? What were/are the occurrences of overheating, smoking, burning, popping, and explosions when the Smart Meter components are overstressed?

See response to Discovery Request #6(e) above.

li If not, how do you know what the failure modes of Your Smart Meters are, and how do you know they are safe?

See response to Discovery Request #6(e) above.

f. Does Your Smart Meter provide Circuit Breaker protection for the homeowner?

No. Protection of the internal electrical circuitry and appliances are the responsibility of the customer and/or homeowner. See section 13 of Duquesne Light's tariff and the associated electric service installation rules, both of which are being produced.

g. Does Your Smart Meter provide Surge Arrestors designed to withstand and protect the homeowner's internal electrical system and connected appliances from large voltage surges and other events originating on the utility-side electrical grid?

See response to Discovery Request #6(f).

h. How does Your Smart Meter compare with the innate ability of the traditional strictly Analog Meter to protect the homeowner from large voltage surges and other events originating on the utility-side electrical grid?

This request is so vague that Duquesne Light cannot reasonably be expected to form a complete response, but Duquesne Light uses industry-standard protective devices throughout its electric circuits, such as breakers, protective relays, and reclosers. Protection of the internal electrical circuitry and appliances are the responsibility of the customer and/or homeowner. See response to Discovery Request #6(f).

i. What measures exist in Your Smart Meters to assure safe and reliable operation, and prevent degradation over time, due to power surges and environmental factors such as debris, humidity, vibration, salt water, etc. which can lead to the occurrence of "hot sockets" that is superior to the traditional strictly Analog Meter?

This request is so vague that Duquesne Light cannot be reasonably expected to form a response, but the HW 3.1 OpenWay CENTRON singlephase meters are ANSI C12.1, ANSI C12.20 and UL2735 compliant devices. Furthermore, the meters operate within the limits established by the FCC and the company's smart meter implementation and procurement plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is reasonable, safe, and in compliance

with the law. Furthermore, the meters themselves do not lead to the occurrence of hot socket conditions. Hot Socket conditions are caused by external influences. External influences that can contribute to hot socket conditions are loose or open meter socket jaws, corrosion of meter socket jaws, contamination of meter socket jaws, and faulty wiring of meter socket. Precautions against, and repair of, such conditions is the responsibility of the customer.

j. To what degree is Your Smart Meter susceptible to damage from "hot sockets" as compared with the traditional strictly Analog Meter?

This request is so vague that Duquesne Light cannot be reasonably expected to form a complete response, but see the response to the preceding Discovery Request.

k. What risks and responsibilities do You assume, and what risks and responsibilities does the homeowner assume, once Your Smart Meter is installed on their residence, as many insurance companies will not cover fires related to Smart Meter failures?

This request is so vague that Duquesne Light cannot be reasonably expected to form a complete response. Duquesne Light's responsibilities are set by the applicable law and by its tariff. Duquesne Light has no knowledge relating to the availability of coverage under individual homeowner insurance policies.

i. Do You assume any responsibility for damage done to the customer's/homeowner's electrical wiring, electrical appliance, utility meter box, building structure, etc. due to voltage surges or other events originating on the utility side electrical grid?

This request is so vague that Duquesne Light cannot be reasonably expected to form a complete response. Duquesne Light's responsibilities are set by the applicable law and by its tariff.

ii. Are customers/homeowners informed of these risks and responsibilities?

This request is so vague that Duquesne Light cannot be reasonably expected to form a complete response. Duquesne Light's tariff is publicly available.

I. Thousands of fires have been documented in PA, CA, TX, FL, NV, IL, and across Canada in buildings after the installation of Smart Meters, including Your Smart Meter (the SK9AMI7). Property has been damaged, and there have been injuries and fatalities. Causes have been attributed to power/voltage surges, overheating, and old building wiring. To what extent are You aware of and acknowledge these occurrences, and what specific measures have you instituted to ensure the safety of your customers?

This request is so vague and overly broad that Duquesne Light cannot be reasonably expected to form a complete response. Furthermore, as noted above, the smart meters being installed in Duquesne Light's service territory are within the limits established by the FCC, have been tested and approved by UL, and comply with ANSI standards. Furthermore, the meters operate within the limits established by the FCC and the company's smart meter implementation and procurement plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is reasonable, safe, and in compliance with the law.

m. How many SK9AMI7 Smart Meters have been removed or recalled from the field for reasons of quality, safety, and reliability?

This request is so vague that Duquesne Light cannot be reasonably expected to form a complete response. Furthermore, as noted above, the smart meters being installed in Duquesne Light's service territory are within the limits established by the FCC, have been tested and approved by UL, and comply with ANSI standards. Furthermore, the meters operate within the limits established by the FCC and the company's smart meter implementation and procurement plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is reasonable, safe, and in compliance with the law.

7. To the extent they have not been previously requested or produced, produce all Documents that relate to Your response to Discovery Request No. 6.

The following documents are attached:

- **Notice of Completion and Authorization to Apply the UL Mark**
- **Paragraph #13 of Duquesne Light's Tariff**
- **Duquesne Light's Electric Service Installation Rate Rules**
- **Additional documents have already been provided in responses to Discovery Request #2 and Discovery Request #4.**

8. Do You stand behind and guarantee Your claim that "Your wireless Smart Meter system is safe and reliable"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any and all property damage and personal harm, etc. that occurs as a result of Your wireless Smart Meter system?

See response to Discovery Request #5.

9. State all facts that support Your claim that Duquesne Light's manner of installing its Smart Meters is safe.

Duquesne Light reiterates that it is required by law to install smart meters throughout its service territory, which includes Complainants' home. The company's smart meter procurement and implementation plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is safe, reasonable, and in compliance with the law. See Duquesne Light's responses to the ensuing Discovery Requests.

a. Installations are not being carried out by Duquesne Light certified electricians. Duquesne Light has subcontracted its Smart Meter installation out to contractors who deploy installer technicians with varying degrees of training and expertise, such as Wellington Power Corporation.

This request does not contain a question that requires a response from Duquesne Light.

i. How much education, experience, and what specific training do the installer technicians subcontracted by Duquesne Light have, and what, if any, are their certifications?

This interrogatory is so vague and broad that Duquesne Light cannot reasonably be expected to form a response. Duquesne Light cannot be reasonably expected to identify the education, experience, and specific training of each individual subcontractor technician. Notwithstanding the vagueness and broadness of this interrogatory, Duquesne Light provides the following response:

All Wellington Power Corporation field personnel exchanging meters in Duquesne Light's service territory are IBEW union members and have been required to pass a written test as well as a two-week field evaluation. It is Duquesne Light's belief that such evaluation is consistent with industry best practices.

ii. What quality control measures are in place to ensure that their

education and training is sufficient and properly maintained, and that the proper installation protocols are being followed?

Wellington Power Corporation supervisors audit 100 percent of new field technicians' meter installations during their first two weeks of field work. Thereafter, supervisors conduct spot audits of 3 percent of installations. It is Duquesne Light's belief that such auditing procedure is consistent with industry best practices.

b. The installation of Your Smart Meters has been directly witnessed and observed by many, including myself. The focus is on speed of deployment in a neighborhood (deploying as many devices as possible in the shortest time), not safety. The meters are just simply and quickly changed out in what is called a "hot install."

This request does not contain a question that requires a response from Duquesne Light, but Duquesne Light disagrees that it emphasizes speed over safety.

i. What is Duquesne Light's specific installation protocol and procedure that is followed to ensure the safety of its customers/homeowners?

Prior to pulling a meter, Duquesne Lights instructs its employees to look for obvious signs of deterioration such as excessive corrosion, a sunken or detached underground service entrance cable, or a socket visibly detached from the customer's house. After a meter is pulled and the employee can see behind the meter, the company instructs them to inspect various componentry inside the socket for signs of deterioration. This includes the insulators, the jaws, the connections, and the wiring. The employee is also instructed to verify service voltage. If the design of the socket permits, the employee will apply bypass jumpers prior to removing the meter to prevent the customer from losing power during the exchange.

ii. What measures has Duquesne Light instituted to make sure that this protocol and procedure are being properly and consistently followed in the field?

To ensure employees are adhering to procedures, Duquesne Light's supervisors take an active approach in conducting field safety audits.

iii. Does Duquesne Light condone and authorize the use of a "hot install"?

The term "hot install" is undefined, thereby making it difficult for Duquesne Light to provide a complete response to this Discovery Request. Where it can be done safely, Duquesne Light does exchange meters without interrupting electric service to the customer.

iv. How does Duquesne Light protect its customers/homeowners and their property from the potential of "electric flash, arcing, or sparking" upon a "hot install"?

The term "hot install" is undefined, thereby making it difficult for Duquesne Light to provide a complete response to this Discovery Request. Duquesne Light and its installation contractors do not attempt meter exchanges under conditions they deem to pose a safety hazard. As part of the smart meter exchange process, Duquesne Light or its installation contractors contact residential customers prior to the exchange, in part to provide the customers with an opportunity to advise the company of any conditions that would impede a meter exchange or if the customer would prefer to shut down operating equipment during the meter exchange. At the time of the exchange, if the installation technician identifies a condition that would make it unsafe to conduct the exchange (e.g., a socket abnormality), he or she stops the exchange and notifies Duquesne Light. Duquesne Light then sends an experienced meter technician to remedy the condition and/or notify the customer of required repairs or service corrections. As part of the installation process the meter exchanger is to attempt to notify the customer prior to meter exchange in the event the customer would prefer to shutdown operating equipment. If the installer identifies a socket abnormality during install, they would stop exchange and notify Duquesne Light to send a meter specialist to make repairs or notify customer of potential service corrections needed.

c. Are the customer's/homeowner's neutral connections considered and checked by a certified electrician for damage or corrosion prior to installation?

Duquesne Light does not consult certified electricians prior to the meter exchange. If an installing technician identifies an abnormality with the customer's neutral connections as part of his/her visual inspection, he/she would stop the installation. By way of further response, see the response to Discovery Request #9(b)(iv).

d. If so, how is this inspection done and what does it involve? Are the age and condition of the customer's/homeowner's electrical system, wiring, and meter box bases considered and checked by a certified electrician prior to installation of Your Smart Meter to ensure that the sockets and house wiring is compatible with the installation of your Smart

Meter?

Duquesne Light does not consult certified electricians prior to the meter exchange. By way of further response, see the response to Discovery Request #9(c).

i. If so, how is this inspection done and what does it involve?

Duquesne Light objects to this Discovery Request because it is vague. By way of further response, Duquesne Light states that it does not consult certified electricians prior to conducting a meter exchange.

ii. How many residences have failed this inspection?

Through the course of the project, Wellington Energy has forwarded investigations at a rate of 0.5 percent consistently for Duquesne Light Specialist. In this 0.5 percent would be potential neutral connection concerns.

iii. What are the observed frequencies and occurrences of

aa. damage or melting around the meter tabs/blades?

bb. pitting in the socket jaws?

cc. loss of spring tension in the socket jaws?

dd. oxidation on the lug wires?

ee. evidence of arcing?

ff. sockets that are unsafe or not up to code?

gg. other abnormal conditions?

The 0.5 percent investigation referenced in the response to Discovery Request #9(d)(ii) above includes the conditions stated in Discovery Request #9(d)(iii)(aa)-(gg).

iv. What other safety related issues have been observed?

Duquesne Light does not specifically itemize the socket conditions.

v. How has Duquesne Light addressed these safety related issues when they occurred?

A Duquesne Light meter specialist will make repairs or notify the customer of potential service corrections needed.

e. What testing for "hot sockets" is performed during the installation of Your

Smart Meter?

Duquesne Light and Wellington Energy, Inc perform the checks for the conditions mentioned previously in Discovery Request #9 that lead to "hot sockets."

f. Is the electric power to the residence turned off at the utility pole, etc. during the installation of Your Smart Meter to protect the customer's/homeowner's electrical system and appliances from damage due to the installation process? If not, why not?

Electric service to the residence is typically not turned off during a meter exchange because under most conditions such service interruption is not required to ensure that the exchange will not pose a safety risk to customer, customer property, or the installation technician.

g. Is the general protocol that the installation is carried out irrespective of the condition of the residence and its electrical system? If not, how not?

This request is so vague that Duquesne Light cannot be reasonably expected to form a complete response, but, as noted above, the internal electrical circuitry is the responsibility of the customer and/or homeowner. By way of further response, if the installer identifies a socket abnormality during install they would stop exchange and notify Duquesne Light to send an experienced meter technician to make repairs or notify the customer of potential service corrections needed.

10. Produce all Documents that relate to Your response to Discovery Request No. 9.

The following documents are attached:

- **Advanced Meter Exchange Procedure**
- **Verify Service Voltage & Perform Safety Check Procedure**

11. Do You stand behind and guarantee Your claim that "Your manner of installing Your Smart Meters is safe"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any and all property damage and personal harm, etc. that occurs as a result of the installation of Your wireless Smart Meter?

See response to Discovery Request #5.

12. State all facts that support Your claim that Duquesne Light's installation of a Smart Meter at the Property is reliable and secure.

See Duquesne Light's responses to the preceding Discovery Requests.

a. With everyone from individuals in the home to secure government installations being the targets of ongoing cyber attacks, that are routinely reported in the press, by law enforcement, and in trade journals, which have resulted in the loss of "secure" identity, medical, financial, etc. information, incurring, at times, massive and devastating personal, financial, business, etc. damage and loss, and in which experts in the security field such as Former CIA Director James Woolsey have repeatedly issued dire warnings, what justification can You provide that Your security protocols for Your Smart Meter system are effective, are any different, and any better than the best security systems in the country which have already been breached?

This request is so broad and vague that Duquesne Light cannot be reasonably expected to form a complete response. Duquesne Light reiterates the company's smart meter procurement and implementation plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is safe, reasonable, and in compliance with the law. Duquesne Light incorporates its response to the preceding requests as if fully restated.

b. How is the security of our personal information, of the electricity to our Property, of the electrical infrastructure of the state of Pennsylvania not made significantly more vulnerable by the deployment and proliferation of hundreds of thousands to millions of wireless programmable end-metering devices, such as Your Smart Meters, and Your Collector Meters, Your Repeaters, Your Data Storage Centers, etc, which are effectively hundreds of thousands to millions of open portals into the electrical energy infrastructure of the state?

This request is argumentative and Duquesne Light rejects its premise. The smart meters being installed in its service territory are not "open portals into the electrical energy infrastructure of the state."

c. Has the delivery of electricity to any of Your customers been unintentionally interrupted by a shutdown switch

i. that You did not trigger with a wireless signal?

Upon information and belief, no.

ii. that You triggered accidentally with a wireless signal

Under both Duquesne Light's Smart Meter system and its legacy metering system, it is possible that a customer's electric service could be mistakenly disconnected due to human error. Duquesne Light does not believe that its Smart Meter system is more vulnerable than its legacy metering system to such error. Duquesne Light is not aware of any instances in which a customer's service was erroneously disconnected due to a technical error of its Smart Meter wireless communications equipment.

d. Have there been any attempts at cyber hacking of Your wireless Smart Meter system?

Upon information and belief, no.

- i. If yes, what were the nature and outcome of these attempts?
- ii. If yes, have You incurred any costs as a result of such hacking
 - aa. from lost revenue?
 - bb. in identifying the specific cyber vulnerability that enabled the hacking?
 - cc. for software or hardware revisions to correct the cyber vulnerability?
 - dd. for replacing, recalling, or modifying Your Smart Meters?
- iii. if You have incurred costs as a result of hacking, were those costs passed on to Your customers?

12. 13. Produce all Documents that relate to Your response to Discovery Request No.

None.

14. Do You stand behind and guarantee Your claim that "Your Smart Meter system is secure"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any and all Property damage and personal harm, etc. that occurs as a result of the hacking, breach, or abuse of Your Smart Meter security system?

See response to Discovery Request #5.

15. Given the controversial nature of wireless Smart Meter deployment, and the increasing negative reports and warnings appearing in the press, and in medical and trade

publications, state the facts indicating that the installation of Your Smart Meter will not have a negative impact on the value of our Property?

This request is argumentative and Duquesne Light disagrees with its premise. Furthermore, Duquesne Light reiterates that it is required by law to install smart meters throughout its service territory, which includes Complainants' home, and the company's smart meter procurement and implementation plan has been approved by the Pennsylvania Public Utility Commission, which is prima facie evidence that it is safe, reasonable, and in compliance with the law. See also Duquesne Light's response to the preceding Discovery Requests.

15. 16. Produce all Documents that relate to Your response to Discovery Request No.

None.

17. Do You stand behind and guarantee Your claim that "Your Smart Meter system will not negatively affect the value of our Property"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any loss in value of our Property that occurs as a result of the installation of Your Smart Meter system?

See response to Discovery Request #5.

18. What is the nature and specificity of the customer data being collected by Your Smart Meter system, and how do You intend/ plan to use that customer data?

Duquesne Light's residential Smart Meters collect hourly and daily electric consumption data for the purposes of billing customers. Smart Meters also collect the following data used for utility grid operations: demand resets; meter tampering events; battery voltage; power outage or restoration events; and voltage thresholds.

a. Will this personal data only be used for billing purposes internal to Duquesne Light?

No. As discussed in the response to the preceding request, some data collected by Smart Meters will be used to facilitate grid operations.

b. What protections are in place to ensure the privacy of this personal data?

Duquesne Light takes data security very seriously. The company has a centralized Chief Information Security Officer and dedicated staff responsible for providing cybersecurity operations, risk management and governance for the protection of Duquesne Light assets and information. Duquesne Light takes a measured defense-in-depth approach by deploying security controls to achieve and maintain a reliable and resilient infrastructure designed to protect

customer data and system operations. Duquesne Light's defense-in-depth approach provides the ability to withstand, respond and adapt to the changing cybersecurity threat landscape. Duquesne Light uses a diverse set of tools and techniques to secure our systems and data. Duquesne Light employs security controls including end-point protection systems, advanced malware protection systems, network security segmentation, intrusion detection/prevention systems, security incident and event monitoring, threat intelligence and vulnerability management as well as recovery and response measures. With respect to Duquesne Light's Smart Meter system: the system uses advanced and open standard data encryption and authentication techniques that have been approved internationally by bodies such as the National Institute of Standards and Technology and the National Security Agency.

c. If this personal data is to be used for other than billing purposes, what are those purposes, and will this be done only with the knowledge and written consent of the customer/homeowner?

The Pennsylvania Public Utility Commission requires Duquesne Light to provide an Eligible Customer List (ECL), comprising certain customer information, to qualified electric generation suppliers (EGSs). Customers can opt to be removed from the ECL. ECL requirements predate, and are not associated with, Duquesne Light's Smart Meter system. For more information about the ECL, visit the Public Utility Commission's website at:

http://www.puc.state.pa.us/utility_industry/electricity/electric_competitive_market_oversight.aspx.

d. Will this personal data be used to monitor and/or profile the customer/homeowner?

To an extent, yes. The primary purpose and function of an electric meter (including both Duquesne Light's legacy meters and its Smart Meters) is to monitor the customer's electric consumption.

e. Have You received any requests for this personal data from any individual, company, or organization for the purposes of profiling, data-mining, etc.?

Upon information and belief, Duquesne Light has received one request from an external party for customer interval usage data for the purposes of developing customer profiles. Duquesne Light received this request in 2013 and denied it. DLC does not provide customer data to unauthorized parties.

f. Have You offered this personal data to any individual, company, or organization?

Except for required disclosures as identified in response to Discovery Request #18(c), above, and information disclosed as part of regulatory reporting,

discovery in legal proceedings, or in response to competent order of a court or law enforcement entity, no.

g. Have You sold this personal information to any individual, company, or organization?

No.

h. Do You have plans in the future to market this personal data in any way for the purposes of creating new income streams?

No.

19. Produce all Documents that relate to Your response to Discovery Request No. 18.

The following documents are attached:

- **Email from to Kevin Baden dated April 29, 2013 requesting customer data.**

20. Do You stand behind and guarantee Your claim that "our personal data collected by Your Smart Meter system will remain secure and private within Duquesne Light"? If so, will You provide a written warranty to that effect indicating that You are accountable and will accept all liability for any loss, abuse, or misuse of our personal data, and any use of our personal information for other than billing purposes without our knowledge and written consent, that is collected and stored by Your Smart Meter system?

See response to Discovery Request #5.

21. How many incidents have occurred, and how many customers have filed concerns and complaints with Duquesne Light, concerning Your Smart Meters with regards to, but not limited to,

- health?
- safety, reliability, and fires?
- privacy?
- security?
- electrical and device interference?
- increased and increasing electrical bills, and over-billing charges?

What were the specifics of these incidents or complaints?

This request is so vague and broad that Duquesne Light cannot be reasonably expected to form a complete response, but copies of all complaints filed with the Pennsylvania Public Utility Commission are publicly available. The mere fact that a complaint was filed does not in any way suggest that Duquesne Light acted improperly or violated the law.

22. Has Duquesne Light provided any relief or accommodation from their Smart Meter system to any individual, official, group, community, organization, etc. for any reason at any time?

The term "relief or accommodation from their Smart Meter system" is so vague that Duquesne Light cannot be reasonably expected to form a complete response. Duquesne Light reiterates that it is required by law to install smart meters throughout its service territory, and that the applicable laws do not provide for individual customers to "opt out" of having a Smart Meter installed at their premises.

a. If so, list those individuals, officials, groups, communities, organizations, etc., and the reasons for that relief or those accommodations?

23. To the extent not previously requested or produced, produce all Documents that You intend to offer into evidence at any hearing in this matter.

Duquesne Light has not yet made a final determination regarding the documents it will offer as hearing exhibits.

24. State the full name, title, affiliation, address, and telephone number of each person who You expect to call to testify at any hearing of this matter.

Duquesne Light has not yet made a final determination as to who it will call to testify at a hearing in this matter.

25. State the full name, title, affiliation, address, and telephone number of each person who You expect to call to testify as an expert witness at any hearing of this matter and, for each expert witness, state:

- a. The subject matter on which the expert is expected to testify;
- b. The substance of the facts and opinions to which the expert is expected to testify; and
- c. A summary of the grounds for each expert opinion.

Duquesne Light has not yet determined what expert witnesses, if any, it will call to testify at a hearing in this matter.

26. Produce the report of any expert You intend to call to testify on Your behalf at trial.

See response to Discovery Request #25.

27. Produce the curriculum vitae of any expert that You intend to call to testify on your behalf at trial.

See response to Discovery Request #25.

TUCKER ARENSBERG, P.C.

By: 

Jeremy V. Farrell, Esquire
PA. ID. No. 316258
Paul Shane Miller, Esquire
PA. ID. No. 319174
1500 One PPG Place
Pittsburgh PA 15222
(412) 566-1212

Counsel for Respondent,
Duquesne Light Company

LIT:631910-1 014657-158498

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Respondent's Responses to Set #1 of Discovery Requests was served by First-Class, U.S. Mail, postage prepaid, this 20th day of November, 2017 upon the following:

Michele Hriadil and Francis Hriadil
331 Shady Ridge Drive
Monroeville, PA 15146



Jeremy V. Farrell, Esquire
PA. ID. No. 316258
Paul Shane Miller, Esquire
PA. ID. No. 319174
1500 One PPG Place
Pittsburgh PA 15222
(412) 566-1212

Counsel for Respondent,
Duquesne Light Company

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