

REBUTTAL TESTIMONY

OF

WILLIAM HENNEGAN

December 12, 2025

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1 **I. Introduction and Qualifications**

2 **Q. Please state your full name and business address.**

3 A. My name is William J. Hennegan. My business address is 827 Hausman Road,
4 Allentown, PA 18104.

5

6 **Q. By whom are you employed and in what capacity?**

7 A. I am employed by PPL Services Corporation, a subsidiary of PPL Corporation (“PPL”),
8 and I currently hold the position of Manager – AMI Business Integration. My
9 responsibilities include leading the overall Business Integration efforts and delivery of
10 the functionality associated with the Rhode Island Energy Advanced Metering
11 Functionality (“AMF”) project.

12

13 **Q. Please describe your educational background and professional experience.**

14 A. I hold a Bachelor of Science degree from Lafayette College (1985) and a Master of
15 Business Administration degree from Villanova University (1995). I have more than 13
16 years of leadership experience at PPL Electric Utilities Corporation (“PPL Electric”)
17 across Advanced Metering and Customer Service. Prior to my current role, I managed the
18 team responsible for operating PPL Electric’s Advanced Metering Infrastructure (“AMI”)
19 systems in Pennsylvania. From 2015 to 2019, I was Manager of AMI Business
20 Integration for PPL Electric’s Smart Meter Implementation Plan, where approximately
21 1.45 million automated meter reading meters were exchanged with second generation

1 AMF meters in Pennsylvania. From 2012 to 2015, I managed the team responsible for
2 operating PPL Electric's Power Line Carrier AMI systems.

3
4 I was employed with Asplundh Tree Expert Company from 2004-2012 and served in a
5 leadership role with two different utility services subsidiaries. From 2000-2004, I was a
6 Program Manager with TruePosition Inc. From 1985-2000, I was employed by PECO
7 Energy in a variety of leadership roles in electric distribution.

8
9 **Q. Have you previously testified before the Commission or any other regulatory body?**

10 A. Yes. I testified before the Commission in Docket No. 22-49-EL, the Company's AMF
11 Business Case.

12
13 **II. Purpose and Organization of Testimony**

14 **Q. What is the purpose of your testimony?**

15 A. The purpose of my testimony is (1) to provide an overview of the Company's Green
16 Button Connect ("GBC"), Home Area Network ("HAN"), and Grid-Edge Computing
17 Plans filed in this docket and (2) to respond to the Direct Testimony of Michael E.
18 Murray, Daniel Roesler, and Brian James Walsh filed on behalf of Intervenor
19 Mission:Data Coalition ("MDC").

1 **Q. In preparing your testimony, did you review the testimony of Messrs. Murray,**
2 **Roesler, and Walsh?**

3 A. Yes, I did.
4

5 **Q. How is your testimony organized?**

6 A. Section I of my testimony provides an introduction and my qualifications. Section II of
7 my testimony states the purpose of my testimony and how it is organized. Section III
8 provides an overview of the Company's GBC Plan and responds to the testimony of Mr.
9 Murray and Mr. Roesler on this topic. Section IV provides an overview of the Company's
10 HAN Plan and use of the Sense application and responds to the testimony of Mr. Murray
11 and Mr. Walsh on this topic. Section V provides an overview of the Company's Grid-
12 Edge Computing Plan and again responds to the testimony of Mr. Murray and Mr. Walsh
13 with respect to grid-edge computing. Section VI is the conclusion.
14

15 **Q. Are you sponsoring any schedules in connection with your testimony?**

16 A. Yes, I am sponsoring the following Schedules:
17

18 Schedule WH-1 October 29, 2025 Technical Session Presentation by Rhode Island
19 Energy

20 Schedule WH-2 Rhode Island Energy's Response to Record Request No. 11 in
21 Docket No. 22-49-EL

1 **III. The Company's GBC Plan**

2 **Q. What is the purpose of the Company's GBC Plan?**

3 A. In compliance with the Commission's Order in Docket No. 22-49-EL,¹ the Company
4 submitted the GBC Plan in this docket. The purpose of the Company's GBC Plan is to
5 provide customers with access to their energy usage information in a consumer-friendly
6 manner. By adopting GBC for this function, the Company has chosen to use an industry-
7 standard interface common throughout North America that is managed by an independent
8 third party, the Green Button Alliance.

9

10 **Q. Was GBC part of the Company's AMF Business Case approved by the Commission**
11 **in Docket No. 22-49-EL?**

12 A. Yes. GBC is described in Section 5.5 of the AMF Business Case, which discusses the
13 technical overview of the Customer Systems and, specifically, the Customer Portal,
14 through which GBC will be available for customers to monitor their usage data. Pages 8-
15 9 of the Company's GBC Plan describe the data that customers will be able to provide
16 third parties through GBC.

¹ *In Re: Rhode Island Energy Advanced Metering Functionality Business Case and Cost Recovery Proposal*, Docket No. 22-49-EL, Report and Order, para. 16 at 27 (May 20, 2025).

1 **Q. How did the Company describe in that docket the functionalities that GBC would**
2 **enable?**

3 A. The Company described how GBC would provide a mechanism, among others, to allow
4 customers to monitor their electric energy usage data. GBC would allow customers to
5 authorize their energy data to be shared with third-party providers, who could offer
6 services such as demand reduction awareness or notifications to avoid high-cost hours of
7 energy consumption. The Company summarized the potential uses of GBC at Bates Page
8 64 of the AMF Business Case, among other places.

9
10 **Q. Does the GBC Plan submitted in this docket align with the Company's GBC**
11 **proposal approved in the AMF Business Case in Docket No. 22-49-EL?**

12 A. Yes. The GBC Plan submitted in this docket describes the process by which third-party
13 providers can register with the Company as GBC vendors and how Rhode Island Energy
14 customers can grant permission to selected third-party providers to receive their energy
15 usage data. This accomplishes the purpose of the GBC functionality as described by the
16 Company and approved by the Commission in Docket No. 22-49-EL.

17
18 **Q. Will the Company deliver a functioning GBC platform for Rhode Island customers?**

19 A. Absolutely. The Company committed to providing the GBC functionality as part of
20 Group 3 in the AMF Functionality Roadmap included in its overall AMF Business Case.
21 The Company is in the process of delivering on that commitment.

1 **Q. What does delivering on that commitment look like to the Company?**

2 A. First, the Company will deliver a GBC platform in early 2026 that both allows third-party
3 providers to register to provide services and allows customers to authorize sharing their
4 data with those registered third-party providers.

5
6 Second, the Company plans to dedicate appropriate resources to address any technical or
7 other issues that may arise in connection with GBC and assist customers and third-party
8 providers with effectively using the GBC platform.

9
10 Third, the Company will encourage use of GBC through a proactive customer
11 communication campaign.

12

13 **Q. How will the Company ensure that the GBC platform performs the intended**
14 **functions?**

15 A. This process begins with the Company's vendor, VertexOne, which has substantial
16 experience implementing GBC functionalities. Working with VertexOne, the Company
17 followed a full end-to-end process for delivering the GBC functionality. This began with
18 the AMF project team defining the business requirements for the GBC platform based on
19 both Rhode Island regulatory requirements and Company business needs. VertexOne and
20 the Company then created detailed functional designs incorporating the business
21 requirements, the VertexOne vendor platform, and the GBC module. Throughout this

1 process, the Company involved experts at VertexOne, key Rhode Island Energy business
2 leads, the GBC business owners, and Company training leads.

3
4 Leveraging the business requirements, functional design, and functional requirements, the
5 Company and VertexOne next created a GBC integration testing plan across a range of
6 scenarios. The project team performed system integration testing in connection with each
7 scenario, all of which were individually reviewed and approved by Company program
8 and business leads.

9
10 This work reached a milestone in June 2025, when the Company received its Green
11 Button Connect My Data Version 3.3 certification from the Green Button Alliance. As
12 Mr. Roesler acknowledges in his testimony at page 4 of 24, this certification verifies “that
13 the technical implementation meets the requirements of the Green Button standards.”

14 Within the Company, the system integration testing scope also received approvals from
15 program, business, information technology (“IT”), and change management leadership.

16
17 In addition to system readiness, the Company also plans to undertake trainings, business
18 readiness, and change readiness programs to ensure that the Company, IT, vendors, and
19 customers are prepared to use and operate the new GBC platform.

1 **Q. What resources will the Company have in place to address any technical or other**
2 **issues that may arise in connection with the GBC platform?**

3 A. First, the Company will equip all Customer Service Call Center agents with GBC-related
4 frequently asked questions. This will allow the Call Center agents to provide customers
5 with general information about GBC and its benefits and provide general assistance to
6 customers seeking to authorize data-sharing with third-party providers.

7

8 Second, the Company will have a dedicated GBC Administrator responsible for
9 answering any customer or third-party provider support requests or questions escalated
10 by Call Center agents. Particularly in the period leading up to and during the GBC
11 rollout, the Company's AMF project team, including myself, will work closely with the
12 GBC Administrator to ensure proper training and knowledge sharing and to provide
13 trouble-shooting support. This close collaboration will support the administration of and
14 initial enrollments in GBC.

15

16 Third, VertexOne will provide support to the Company throughout the GBC launch and
17 afterwards. VertexOne will assist in resolving any issues that may arise following the
18 launch and will continue to provide ongoing maintenance and support to the Company.

19

20 **Q. How will the Company encourage participation in GBC?**

21 A. The Company plans to launch a proactive customer communication campaign to raise
22 awareness of the GBC platform and the benefits that it may provide. The Company's

1 communication campaign will launch in 2026 before GBC goes live and will continue
2 throughout 2026. It will include promoting the platform through the Rhode Island Energy
3 website, email notifications, social media, and frequently asked questions and fact sheets.

4
5 Additionally, the Company already has begun proactively discussing GBC with potential
6 third-party providers. This has included discussions with the Company's energy
7 efficiency vendors and working with the GBC team at the PPL affiliate operating
8 companies in Kentucky (Louisville Gas and Electric Company and Kentucky Utilities
9 Company – together, "LG&E") to identify third-party providers.

10
11 **Q. Does the Company intend for energy usage data transmitted via GBC to be used for**
12 **billing purposes?**

13 A. No, it does not. As outlined in response to Data Request CLF 1-5(c), energy usage data
14 shared on the same day as that energy usage will be in raw form. The data will be
15 validated overnight and would be billing quality the subsequent day. Even though the
16 data is billing quality, however, the Company's billing process remains entirely separate
17 from GBC. Once a customer's AMF meter is deployed, meter data for billing purposes
18 travels from the meter over the Company's RF mesh network to the Head End System
19 and then the meter data management system and connects with the Company's billing
20 system software. This pathway is entirely separate from and unrelated to GBC.

1 **Q. Are you aware of the testimony by Mr. Murray and Mr. Roesler that the**
2 **Company’s GBC Plan lacks the function blocks necessary to provide sufficient data**
3 **for the participation of demand response resources with ISO New England?**

4 A. Yes, I am aware of that testimony.

5
6 **Q. What is your response to that testimony?**

7 A. First, as I said earlier, the purpose of the GBC Plan outlined by the Company in Docket
8 No. 22-49-EL and again in this docket is to provide a mechanism to facilitate customers
9 sharing their energy usage data with third-party providers. The Company committed to
10 obtaining certification from the Green Button Alliance and to providing customers in
11 Rhode Island with the same functionalities available to LG&E’s customers. The
12 Company selected the function blocks necessary to achieve certification and deliver those
13 functionalities. The additional function blocks that MDC now demands be included are
14 outside the scope of the approved AMF Business Case.

15
16 Second, the data that MDC demands appear to relate to implementation of FERC Order
17 No. 2222 for Facilitating Participation in Electricity Markets by Distributed Energy
18 Resources (“FERC 2222”). ISO New England has not finalized its specific requirements
19 for implementing FERC 2222. Until it does, the Company cannot determine its processes
20 relating to the FERC 2222 data requirements or its methods for providing the
21 information. It is premature to evaluate specific solutions for FERC 2222 implementation
22 or to presume that the Company would fulfill the implementation requirements through

1 GBC. Further, using GBC to facilitate FERC 2222 participation through the addition of
2 more function blocks is outside the scope of the approved AMF Business Case and the
3 scope of the Commission’s review of the GBC Plan in this docket.
4

5 **Q. Did you review Mr. Murray’s recommendation for “minimum user experience**
6 **requirements” included at page 14 of 42 of his testimony?**

7 A. Yes.
8

9 **Q. What is your response to that recommendation?**

10 A. The Company’s GBC Plan already incorporated these elements. As the Company shared
11 at the October 29, 2025 Technical Session, the Company’s authorization process for
12 sharing data will consist of customers clicking a single box. Schedule WH-1 of my
13 testimony contains the slide deck provided by the Company at the Technical Session. An
14 image of the approval box is included on page 11 of Schedule WH-1. As this image
15 shows, third-party providers and customers also will be able to tailor the amount of data
16 to be shared.
17

18 Additionally, a customer’s profile will include all electric accounts associated with that
19 customer. This will allow customers to decide easily whether to share their energy usage
20 data associated with all their electric accounts or just a subset of them.

1 **Q. Did you review Mr. Murray’s recommendation regarding annual recertification of**
2 **the GBC platform included at pages 15-16 of 42 of his testimony?**

3 A. Yes.

4
5 **Q. What is your response to that recommendation?**

6 A. Recertification is not necessary. The GBC certification from Green Button Alliance,
7 which the Company provided in response to MDC’s Data Request No. MDC 1-1,
8 outlines certain circumstances in which recertification is required. None of those
9 circumstances have occurred since the Company obtained certification on June 27, 2025.
10 Specifically, the version of the GBC platform that the Company used to obtain
11 certification is the same GBC platform that will go live next year. The production version
12 has not changed since the June 2025 certification, and the Company does not anticipate
13 any future changes either. The Company intends to follow the Green Button Alliance’s
14 requirements and recommendations for when recertification is necessary.

15
16 **Q. Did the Company agree to any reporting requirements with respect to GBC in the**
17 **AMF Business Case?**

18 A. Yes. The Company committed to tracking and reporting on the number of customers
19 exporting their GBC data as part of its annual report that will be filed with the
20 Commission by December 31st each year. The Commission will have full visibility into
21 how many Rhode Island Energy customers have chosen to take advantage of GBC.

1 **Q. Did you review Mr. Murray’s recommendation included at page 18 of his testimony**
2 **that the Commission referee the terms and conditions applied to GBC third-party**
3 **providers?**

4 A. Yes.

5

6 **Q. What is your response to that recommendation?**

7 A. Mr. Murray’s recommendation is unnecessary and inappropriate. His concerns are
8 entirely speculative. The GBC Plan outlines the approval process and the conditions that
9 third-party providers must satisfy and with which the Company must comply. The
10 Commission has oversight of the process through this docket. Further, the Company will
11 work with third-party providers to facilitate their registration for GBC. The Company
12 will review applications to confirm that third-party providers have the technical
13 capability to receive customer data. The Company also will review the completeness of
14 applications and review the third-party providers’ websites. The goal of this review is to
15 determine the intended scope and use of the energy usage data. The Company also will
16 require third-party providers to submit their policies around data privacy and retention
17 and require third-party providers to provide mitigations and potential actions, including
18 reporting requirements, they would take in the event of a data breach. The Company will
19 review these submissions as part of the application approval process and ensure
20 alignment with the corporate policies identified in the AMF Data Governance Plan in
21 Docket 22-49-EL Attachment G, Section B. If third-party providers encounter difficulties
22 during the registration process, the Company will work with them through discussion and

1 requesting additional information to try to facilitate their ultimate registration and
2 participation in GBC.

3
4 In short, the Company's role and responsibility with respect to registering third-party
5 providers is threefold: (1) ensuring that third-party providers have the technical capacity
6 to receive customer energy usage data; (2) confirming that the scope of services the third-
7 party providers intend to offer as outlined in their application generally aligns with their
8 business as evidenced by their website or other external-facing sources, so that customers
9 can expect to receive the services being offered; and (3) ensuring that the third-party
10 providers have sufficient data security policies in place to conform with the Company's
11 AMF Data Governance Plan.

12
13 **Q. Have you reviewed the testimony of Mr. Murray and Mr. Roesler regarding certain**
14 **challenges that MDC claims to have encountered in attempting to register for**
15 **LG&E's GBC platform?**

16 A. Yes.

17
18 **Q. What is your response to their testimony highlighting these challenges?**

19 A. First, the Company acknowledges that MDC appears to have encountered difficulties in
20 registering for LG&E's GBC platform, although the cause of those difficulties has not yet
21 been fully determined. LG&E and VertexOne continue to work with MDC to resolve
22 these difficulties.

1 Second, as Company Witness Philip Walnock had described in his testimony during the
2 hearings in Docket No. 22-49-EL, the Company leveraged LG&E's GBC platform as the
3 starting point for development of Rhode Island Energy's GBC platform. This brought
4 value to Rhode Island customers because of the synergies of scale and the prior
5 experience of PPL and VertexOne in rolling out the technology to the Company's
6 affiliate. Certainly, to the extent any issues uncovered at LG&E may affect Rhode Island
7 Energy's GBC rollout, the Company will work with VertexOne in advance of the rollout
8 to address them. The Company also will use the recent LG&E experience to help refine
9 communications with third-party providers and develop clear enrollment instructions.

10
11 Third, as I said at the outset, the Company is committed to delivering a functioning GBC
12 platform to Rhode Island customers. To the extent that challenges come up following the
13 rollout – as can happen in the rollout of any new technology – the Company will have
14 internal and external resources available to address them.

15
16 **Q. Should the Commission be concerned about customers incurring additional costs to**
17 **address issues that may arise with GBC?**

18 A. No. The capital costs for implementing the GBC functionalities outlined in the GBC Plan
19 are included in the aggregate cap established by the Commission in Docket No. 22-49-
20 EL. To the extent the Company must incur additional costs to deliver the GBC
21 functionality, as described in the approved AMF Business Case, the Company must bear
22 any costs above the cap.

1 **IV. The Company's HAN Plan and Use of the Sense Application**

2 **Q. Why is the Company using the Sense application to provide customers with real-**
3 **time data regarding their energy usage and load disaggregation information?**

4 A. The Company's use of Sense for this purpose is a direct outcome of the hearings in
5 Docket No. 22-49-EL.²

6
7 **Q. What do you mean by that?**

8 A. The Company's AMF Business Case originally included real-time energy usage
9 information and load disaggregation information as two separate phases of the AMF
10 rollout. The Company intended to provide real-time energy usage information to
11 customers early on through the HAN solution. The Company had intended to develop its
12 own HAN solution to allow customers to connect to their meter through their router and
13 obtain real-time energy usage information using their personal devices, such as laptops or
14 smartphones. Separately, and in a later, future AMF phase, the Company intended to
15 enable the Sense application, which comes preloaded on the Landis + Gyr Revelo meters,
16 for the purpose of providing load disaggregation insights to customers.

17
18 During the hearings in Docket No. 22-49-EL, however, it became apparent that there was
19 a simpler, cost-effective way to provide customers with the benefit of load disaggregation
20 insights sooner than the Company originally had anticipated. Rather than develop a

² Docket No. 22-49-EL, Report and Order, at 12 n.44 (citing Hr'g Tr. At 270, 313-14).

1 separate solution to provide real-time energy usage information, the Company could
2 instead enable the Sense application immediately and use Sense both for the provision of
3 real-time energy usage information and for the provision of load disaggregation insights.
4

5 **Q. Did the Commission fully vet the Company's use of Sense in Docket No. 22-49-EL?**

6 A. Yes. For reference, I have provided as Schedule WH-2 a copy of the Company's response
7 to Record Request No. 11 in that docket, which outlined the differences to the
8 Company's AMF Business Case as originally proposed and if the Company used Sense
9 as the HAN solution.
10

11 **Q. Did the Commission direct the Company to advance the Sense application as**
12 **described in Record Request No. 11 in Docket No. 22-49-EL?**

13 A. Yes, advancement of the Sense application was one of the conditions on the authorized
14 scope of meter deployment.³
15

16 **Q. Does the Company's HAN Plan filed in this docket align with the Commission's**
17 **direction in Docket No. 22-49-EL to advance the use of the Sense application for**
18 **customers to use for real-time energy usage information and load-disaggregation**
19 **insights?**

20 A. Yes, it does. As outlined in the HAN Plan, customers will have full access to the Sense
21 real-time mobile experience, which works by pairing their AMF meter to their router and

³ Docket No. 22-49-EL, Report and Order, para. 6(c) at 24.

1 downloading the Sense application to their mobile device. Customers will not have to pay
2 any enrollment fees for the Sense application, nor will they have to spend money to buy
3 an additional device for their homes to understand their energy usage.

4
5 **Q. When will the Sense application be available?**

6 A. The Sense application will be available to residential customers in the first quarter of
7 2026.

8
9 **Q. Did MDC participate in Docket No. 22-49-EL?**

10 A. Yes. MDC intervened in Docket No. 22-49-EL, and Mr. Murray sponsored testimony in
11 that docket.

12
13 **Q. Have you reviewed Mr. Murray's testimony with respect to HAN in this docket?**

14 A. Yes.

15
16 **Q. What is your response to that testimony?**

17 A. Mr. Murray fails to acknowledge that the Commission fully vetted the use of the Sense
18 application as the HAN solution in Docket No. 22-49-EL and directed the Company to
19 deploy it.

1 **Q. Aside from the Sense application, are there any other applications currently on the**
2 **market and compatible with the Landis + Gyr Revelo meter that provide customers**
3 **with real-time energy usage information and load-disaggregation insights?**

4 A. No, there are not.

5

6 **Q. If any such applications come on the market in the future, will the Company**
7 **evaluate them for potential offerings to Rhode Island Energy customers?**

8 A. Yes. This relates to the Company's Grid-Edge Computing Plan. The Company will
9 remain apprised of applications that become available for use with the Landis + Gyr
10 Revelo meters. The Company will evaluate and determine the applications to be installed
11 on the meters, the associated implementation plans, and the appropriate mechanisms for
12 potential cost recovery.

13

14 **Q. Is the development of a "Local Real-Time" functionality as proposed by Mr.**
15 **Murray in pages 27-33 of his testimony and further discussed in pages 11-15 of Mr.**
16 **Walsh's testimony within the scope of the Company's AMF Business Case approved**
17 **by the Commission in Docket No. 22-49-EL?**

18 A. No.

1 **Q. Did you review Mr. Murray’s testimony regarding his concerns that the Company**
2 **or Sense might potentially in the future share customer energy data with law**
3 **enforcement “without due process”?**

4 A. I did.

5

6 **Q. What is your response to that testimony?**

7 A. Mr. Murray’s concerns are speculative and unfounded. The privacy policies of both the
8 Company and Sense require a subpoena, warrant, discovery demand, court order, or other
9 formal legal processes before considering the release of any customer data to law
10 enforcement.

11

12 **V. The Company’s Grid-Edge Computing Plan**

13 **Q. Please provide an overview of the Company’s Grid-Edge Computing Plan.**

14 A. The Company’s Grid-Edge Computing Plan offers a framework for how the Company
15 will approach grid-edge computing capabilities and evaluate applications in the future for
16 potential deployment on the Landis + Gyr Revelo AMF meters.

17

18 **Q. Did the Company’s AMF Business Case approved by the Commission in Docket**
19 **No. 22-49-EL include capital or operations and maintenance expenditures for the**
20 **implementation of grid-edge computing?**

21 A. No, it did not.

1 **Q. Does the Company have a timeline in place for implementing the framework**
2 **contained in the Grid-Edge Computing Plan?**

3 A. Not at this time.
4

5 **Q. Why does the Company not have a more definitive timeline in place for**
6 **implementing grid-edge computing capabilities?**

7 A. The reality is that the grid-edge computing market is still in its nascent stages. At this
8 time, there are multiple companies actively developing applications, with some
9 applications already released on the Landis + Gyr platform. With the exception of the
10 Sense Real-Time Experience application, however, which the Company intends to
11 deploy, none of the currently available applications on the ecosystem are designed to be
12 customer-facing.
13

14 Additionally, as the testimony sponsored by MDC makes clear, currently there are a
15 number of technologies and approaches to data-sharing – whether dedicated devices,
16 direct data upload, smartphone applications, or others – in development within the grid-
17 edge computing market. The Company must observe and assess how these technologies
18 evolve and the benefits they can offer to customers before it can determine whether and
19 how best to invest in particular solutions.

1 The purpose of the Grid-Edge Computing Plan is to position the Company to be ready to
2 act and make reasonable investments for customers as these technologies become more
3 widely available.

4
5 **Q. Is the development of a “direct-data upload” functionality as proposed by Mr.**
6 **Murray in pages 33-35 of his testimony and further discussed in pages 2-10 of Mr.**
7 **Walsh’s testimony within the scope of the Company’s AMF Business Case approved**
8 **by the Commission in Docket No. 22-49-EL?**

9 A. No, and the Company does not have plans to implement “direct-data upload”
10 functionality at this time.

11

12 **VI. Conclusion**

13 **Q. Does this conclude your testimony?**

14 A. Yes, it does.

INDEX OF SCHEDULES

Schedule WH-1	October 29, 2025 Technical Session Presentation by Rhode Island Energy
Schedule WH-2	Rhode Island Energy's Response to Record Request No. 11 in Docket No. 22-49-EL

SCHEDULE WH-1



Rhode Island Energy™
a PPL company

Rhode Island Energy

Green Button Connect, Home Area Network, Grid Edge Computing

Rhode Island Public Utilities Commission Technical Session
Docket No. 25-19-EL
October 29, 2025



Agenda

- Introductions
- Green Button Connect
- Home Area Network (Sense)
- Grid-Edge Computing



Rhode Island Energy™
a PPL company



Green Button Connect (GBC)



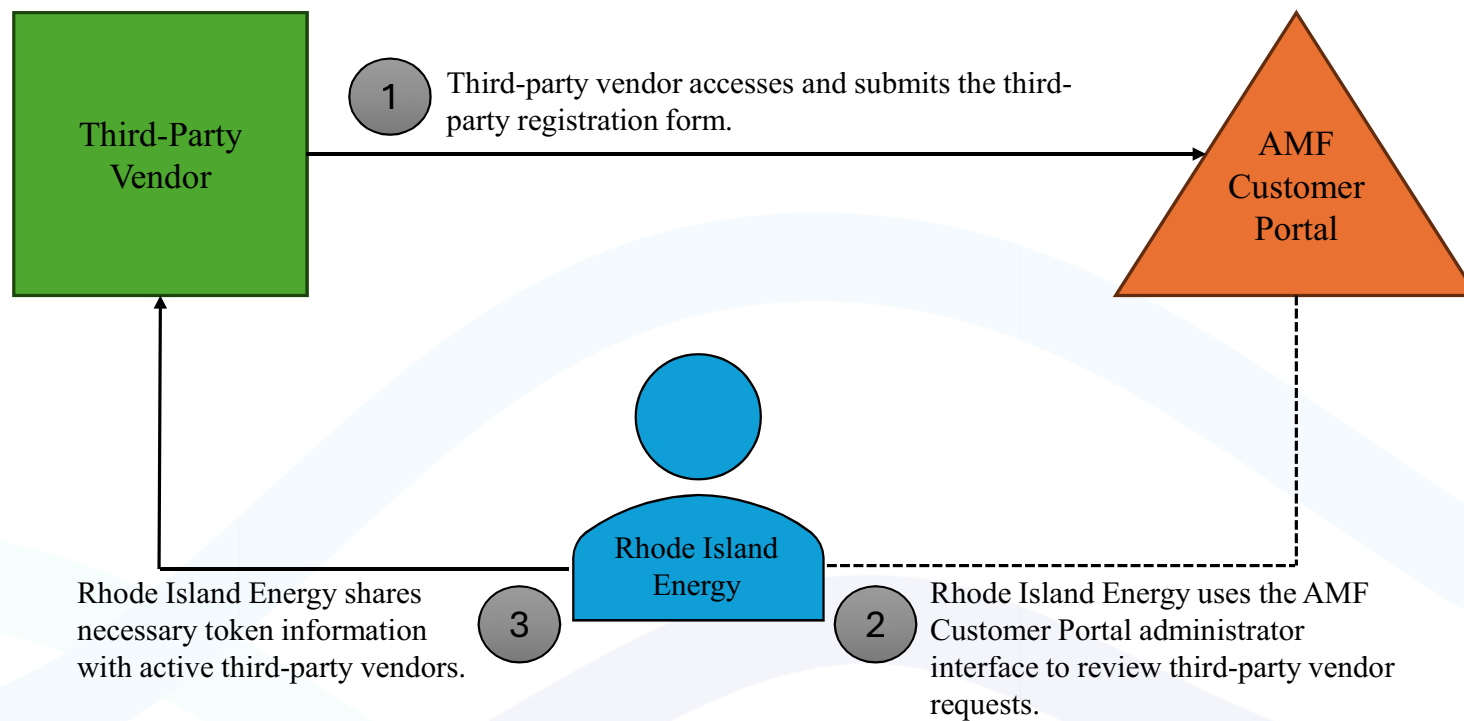
Rhode Island Energy™
a PPL company

Green Button Overview

- The Green Button initiative is an industry-led effort to provide utility customers with access to their energy usage information.
- Green Button Download allows customers to download their usage information in XML format which can be sent to third-party vendors. This is currently available on the RIE Customer Portal for both gas and electric.
- Green Button Connect facilitates computer-to-computer communication where customers can provide authorized third-parties direct access to energy usage data.
 - Green Button Connect will be available in the first quarter of 2026 for customers who have an AMF meter installed.
 - Rhode Island Energy received its Green Button Connect My Data Version 3.3 certification from the Green Button Alliance on June 27, 2025.



Third-Party Vendor Registration





Third-Party Vendor Approval

- RIE GBC administrator reviews:
 - ✓ The third-party vendor's technical capability to receive the customer data
 - ✓ The completeness of the application
 - ✓ The third-party vendor's website
 - ✓ The intended scope and use of the energy usage data
 - ✓ The additional data security information provided by third-party vendor

- If the application is **approved**:
 - ✓ A GBC-vendor-specific token is generated and sent via an encrypted email to the third-party vendor.

- If the application is **incomplete**:
 - ✓ RIE notifies the third-party vendor that the application needs more information.
 - ✓ The third-party vendor may resubmit an application with the necessary information.



Third-Party Vendor Registration Form

Green Button Connect Registration

[View a reference guide to get help with filling out this form.](#)

Software Version *	Client Name *
<input type="text"/>	<input type="text"/>
Third-Party Name	Contact
<input type="text"/>	<input type="text"/>
Policy URI	Third-Party Application Description
<input type="text"/>	<input type="text"/>
Redirect URI *	Third-Party Application Status
<input type="text"/>	<input type="text"/>
Client URI	Token Endpoint Authentication Method *
<input type="text"/>	<input type="text"/>
Third-Party Application Type	Scope *
<input type="text"/>	<input type="text"/>
Third-Party Application Use	Grant Types *
<input type="text"/>	<input type="text"/>
Third-Party Phone	Response Types *
<input type="text"/>	<input type="text"/>
Third-Party User Portal Screen URI	Third-Party Notify URI *
<input type="text"/>	<input type="text"/>
Logo URI	Software ID *
<input type="text"/>	<input type="text"/>
Terms of Service URI	
<input type="text"/>	



Rhode Island Energy[™]
a PPL company

Third-Party Vendor Data Security Requirements

- In addition to the application, the Company plans to include requirements that must be agreed to by the third-party vendor for the application to be approved. These include requiring the third-party vendor to:
 - Ensure that a customer's data cannot be sold and can be destroyed upon request.
 - Supply policies around data privacy and retention.
 - Provide mitigations and potential actions it would take in the event of a data breach.
- The Company will review these submissions as part of the application approval process and confirm the submissions are consistent with corporate policies that can be found in the AMF Data Governance Plan in Docket 22-49-EL Attachment G, Section B. These include:
 - Data Governance Policy
 - PPL Standards of Integrity
 - PPL Responsible Behavior Program
 - Information Security
 - Information Classification and Handling
 - Electronic Information Security
 - Records Management
 - PPL Electric Cybersecurity Policy
 - PPL FERC Standards of Conduct
 - PPL Enterprise Information Security Policy
 - Data Security Standard



Third-Party Vendor Management

Revoking Third-Party Vendor Access

- Instances warranting third party vendor review could include:
 - Customer questions or complaints.
 - Instances where RIE finds an approved third-party vendor utilizing customer’s data differently than noted in their application.
- This process will also include a discussion with customer who raised the concern and the third-party vendor.
- The RIE GBC administrator will not revoke a third party’s access until the administrator has reviewed and found any reports or instances are valid, completed a peer check, and notified his or her manager.
- Customers can also remove third party vendors from receiving data on the AMF Customer Portal.

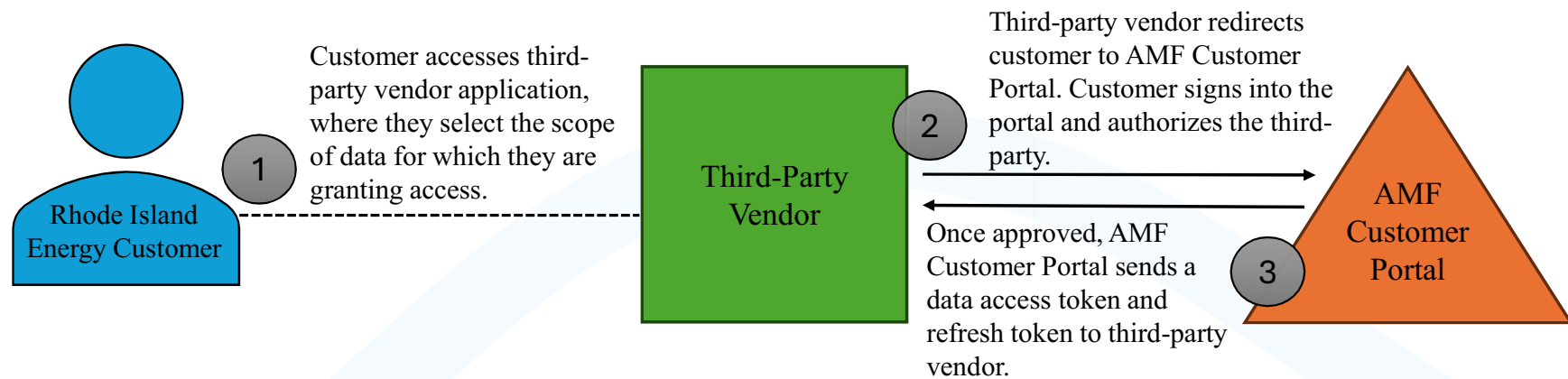
Reinstating Third-Party Vendor Access

- If RIE revoked and then reinstated access to a third-party vendor, all customers previously sharing access to their data with the vendor would be automatically re-enrolled.

Green Button Connect Third Parties		
Third Party Name	Authorized Date	Delete
gbc_1	3/29/2023 1:59:45 PM	Delete



Customer Enrollment in Green Button Connect





Customer Enrollment Details

- RIE will include a list of approved Green Button Connect third-party vendors on the RIE website, including links to the vendor websites.
- Customers must sign up for Green Button Connect directly from a third-party vendor's website or application.
- During the sign-up process, customers will need to:
 - ✓ Select the duration and timeframe of the data they choose to share. Third Party vendors can receive up to:
 - ✓ 13 months of electric interval data
 - ✓ 10 years of historical billing data
 - ✓ Connect to their RIE account to approve the sharing of that information

Do you want to grant TevinSales access to 395 days of 15-Minute, Hourly data?

Yes No

Privacy Policy | Terms of Use | Third Party Registration

Select Language v5.2.7.4 Powered By: mymeter



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Data Sent via GBC

- The Green Button Connect functionality only allows certain data fields to be transferred via token to the third-party vendor.
- The table below outlines the data that RIE is certified by the Green Button Alliance for and can be shared via GBC. These are uniform across different customer classes.

Customer Data Available to be Shared Via GBC

- | | |
|--|---|
| <ul style="list-style-type: none">▪ Billed Monthly Electricity Usage (kWh)▪ Billed Monthly Electricity Usage (kWh) from prior year*▪ Billing Meter Read▪ Meter Number▪ Billing Read Dates▪ Total Bill | <ul style="list-style-type: none">▪ Billed Electric Usage: Demand (kW)▪ 15-minute interval consumption (kWh)▪ Daily meter reads (kWh)▪ Daily consumption (kWh) |
|--|---|

*This is dependent on how much historical information the customer authorizes to be shared



GBC for Gas and Solar Customers

Gas Customers

- Green Button Download is currently available for RIE gas customers and will remain available.
- RIE does not currently have an estimated cost nor an implementation timeframe to include natural gas usage in GBC because natural gas was not in the approved scope and funding for the AMF project. Implementation costs would include:
 - MDMS and CIS modifications
 - AMF Customer Portal modifications
 - Green Button Alliance Recertification Costs
 - Additional ongoing maintenance costs

Solar Customers

- Solar customers can enroll in Green Button Connect.
- Both generation and usage will be shared as positive values and are flagged differently.



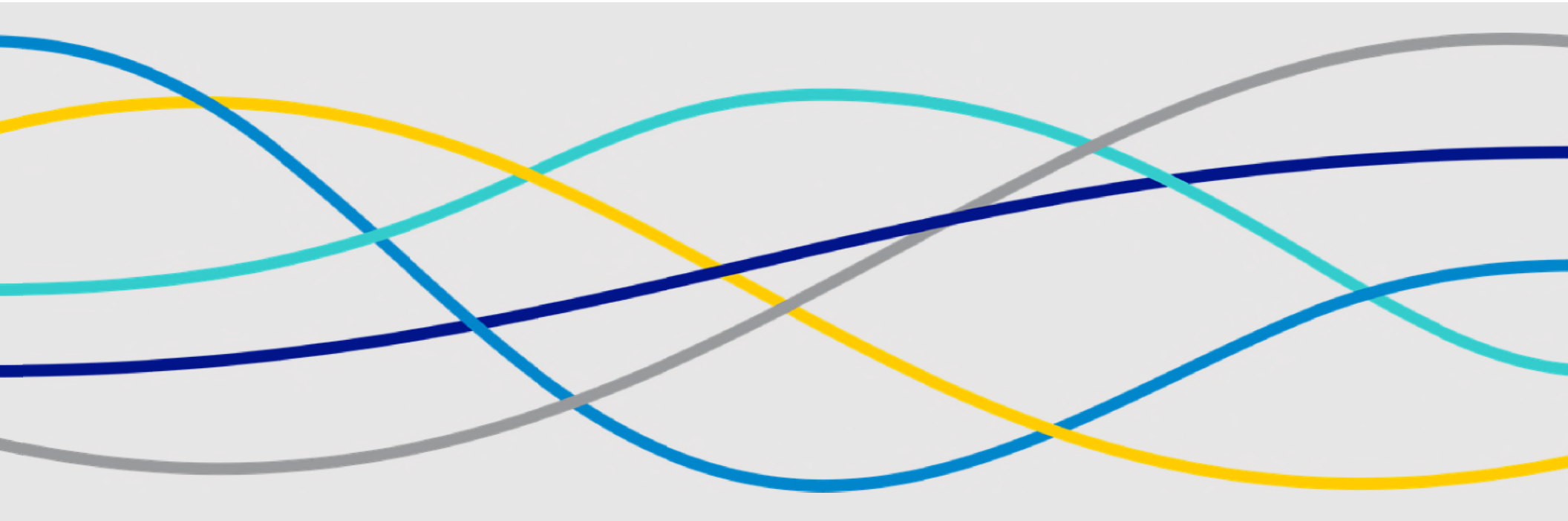
GBC User Support and Communications Plan

User Support

- The customer contact center will be equipped with GBC-related frequently asked questions.
- If a customer question needs to be escalated, the RIE GBC Administrator will be responsible for answering any additional customer support requests.
- RIE will include a list of approved Green Button Connect third-party vendors on the RIE website, including links to the third-party vendor websites.

Communications

- Customer communications around GBC will begin in early 2026 via different channels such as:
 - The Rhode Island Energy Website
 - Email Notifications
 - Frequently Asked Questions
 - Fact Sheets
 - Social Media



Green Button Connect Questions



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Home Area Network (Sense)



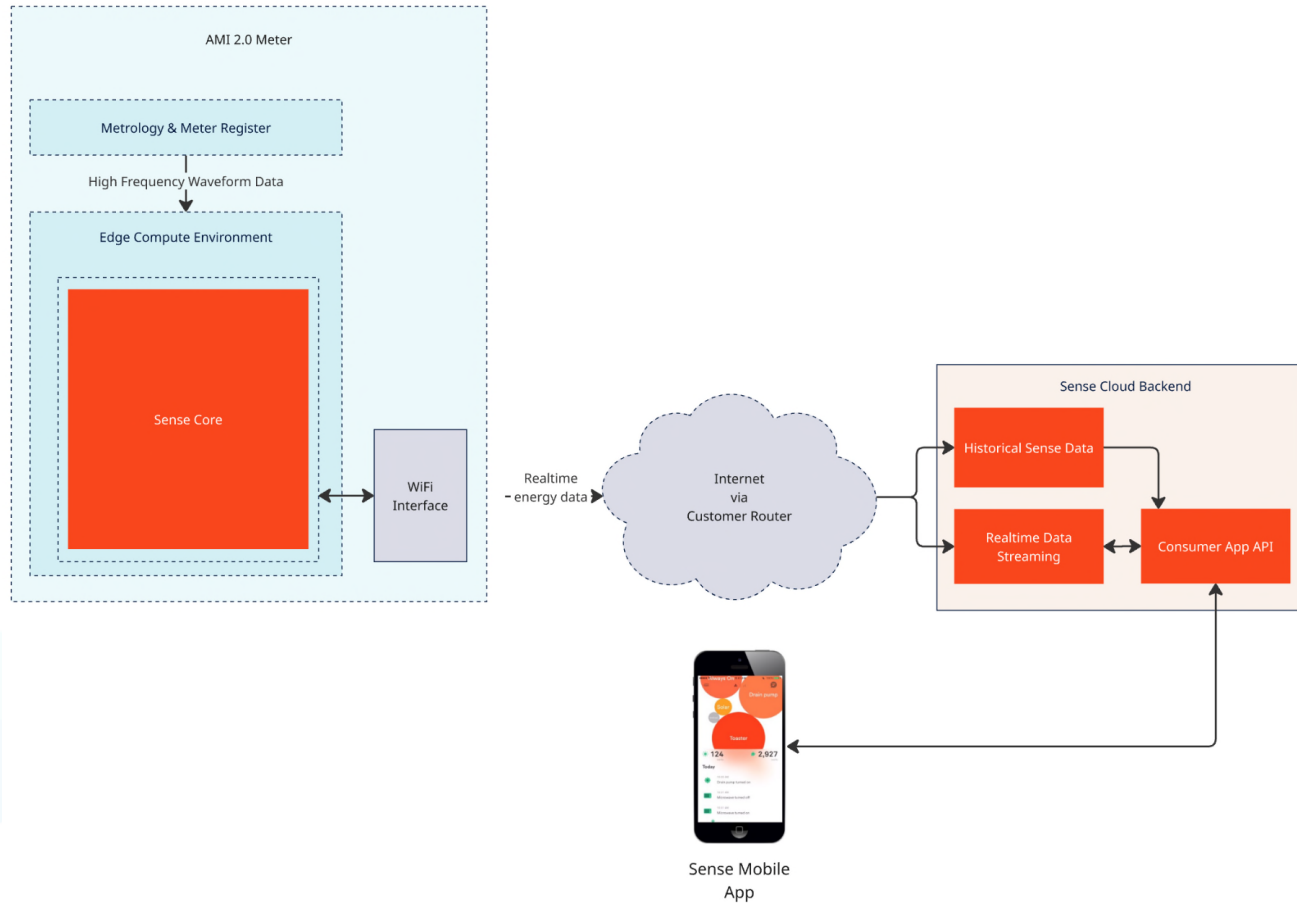
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Home Area Network Overview

- Home Area Network ("HAN") is an industry term used to describe the ability for an electric meter to connect to a device in the home for the purpose of providing customers with real time energy usage information.
- Customers who use HAN in other PPL operating companies (Kentucky and Pennsylvania) must purchase and connect devices that support Zigbee Smart Energy Profile 1.2b to their meters. These HAN implementations only provide real time energy usage information.
- The HAN functionality to be delivered by RIE as part of the AMF Project provides residential customers real time energy usage information and load disaggregation insight via the Sense application.
 - No additional device purchase is necessary as the AMF meter can connect to a customer's network via Wi-Fi.
 - There is no direct fee for customers to download and use the application.
 - This will be available beginning in the first quarter of 2026 for residential customers.



Data Flow from Meter to Sense Application



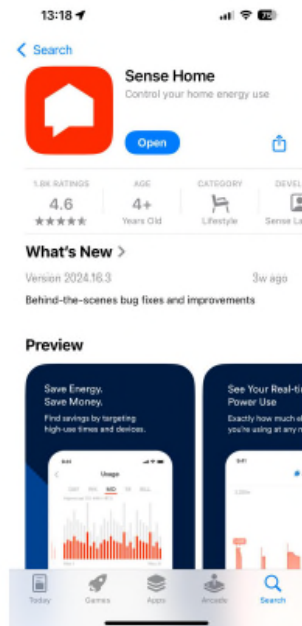


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Creating a Sense Account

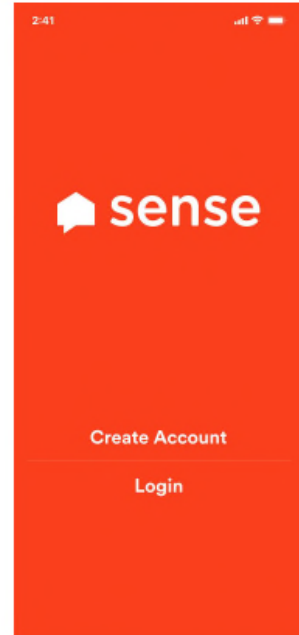
Download App

1



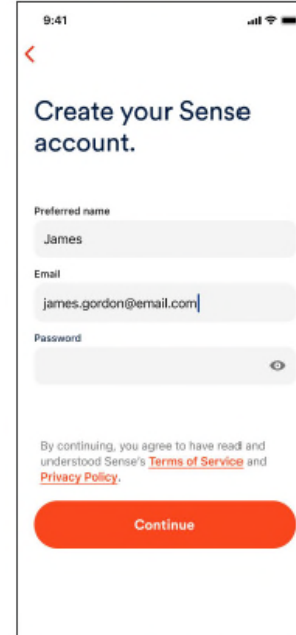
Install and Open

2



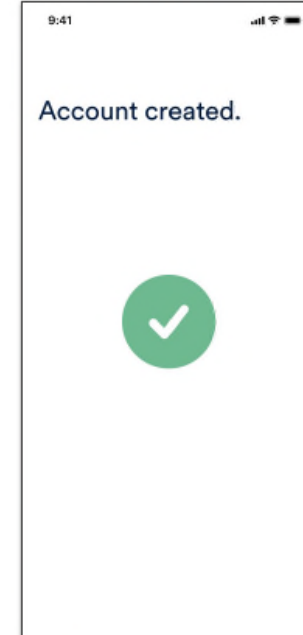
Create a Password

3



Account Created

4



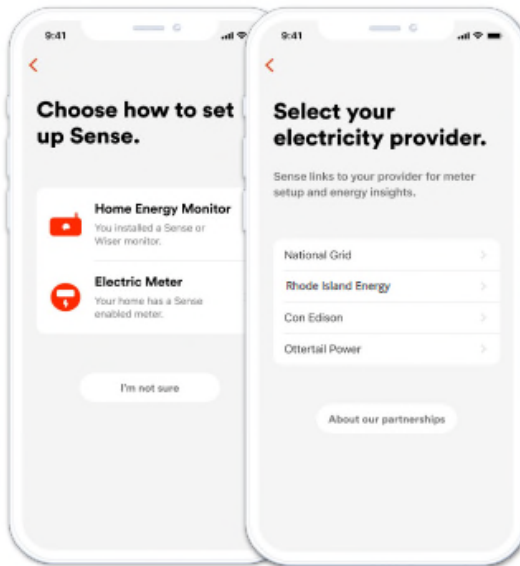
Disclaimer: The images shown are for illustration purposes only and may not be an exact representation of the final product



Link to a Utility Account

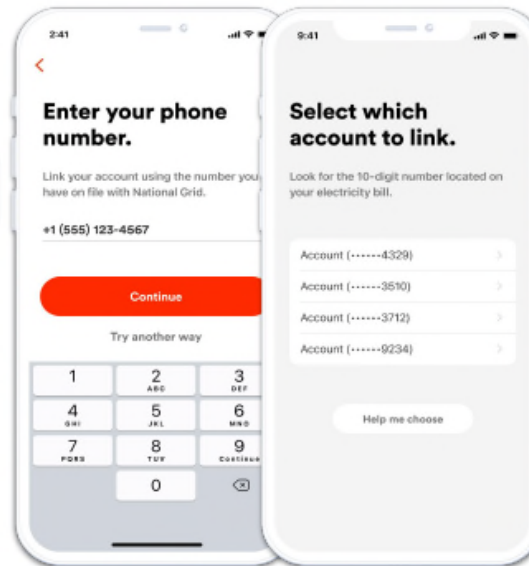
Confirm Utility

1



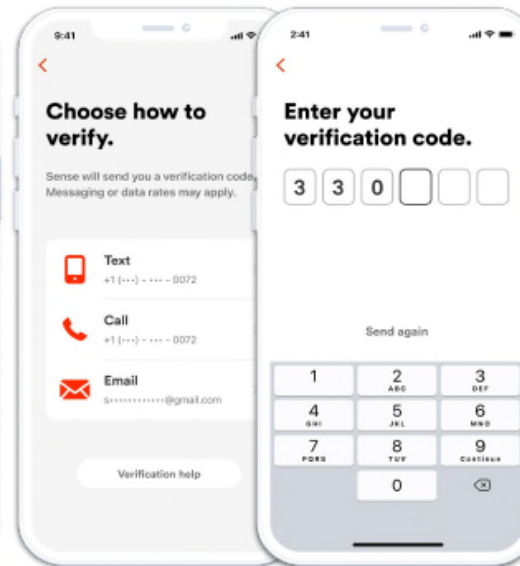
Validate Account

2



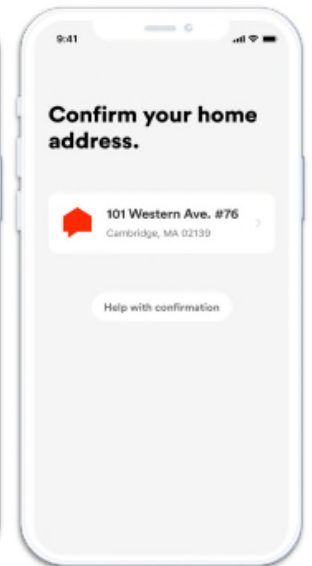
Verify Customer

3



Select Premise

4



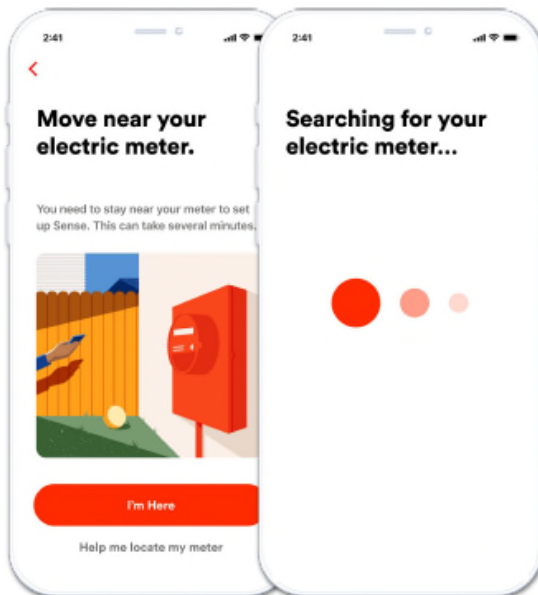
Disclaimer: The images shown are for illustration purposes only and may not be an exact representation of the final product



Register Meter and Connect to Wi-Fi

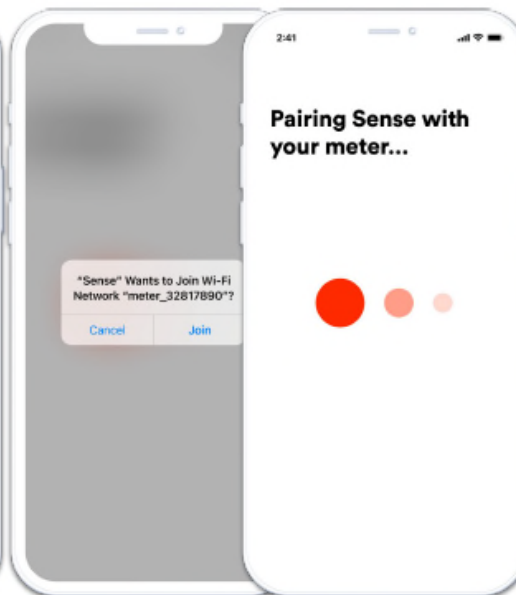
Locate the Meter

1



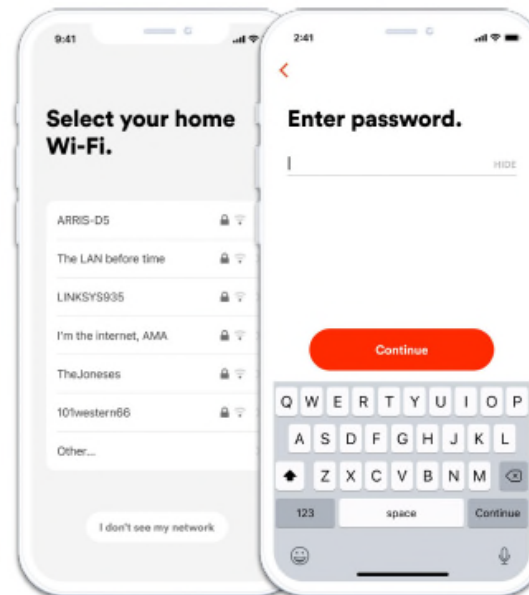
Pair with Meter

2



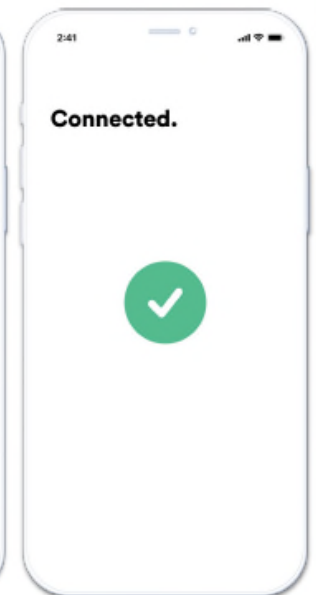
Select Wifi Network

3



Connect to Wifi

4



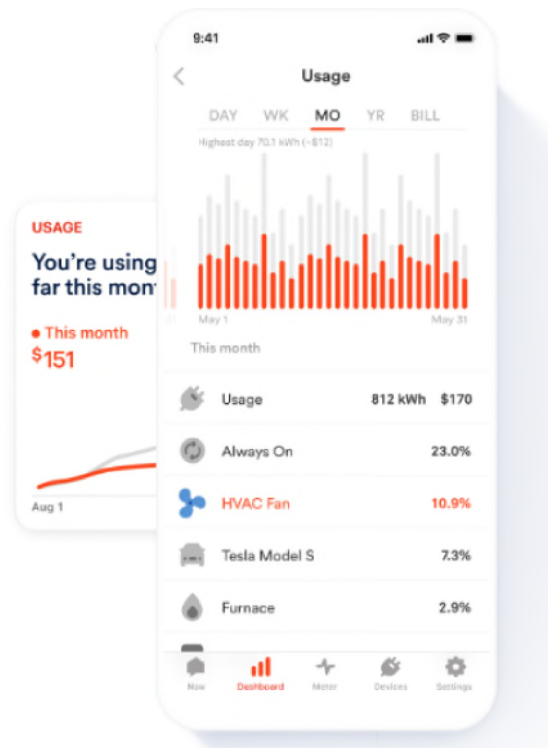
Disclaimer: The images shown are for illustration purposes only and may not be an exact representation of the final product



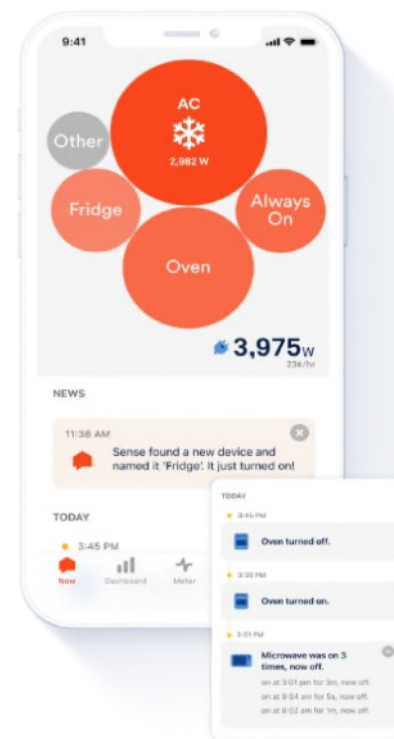
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Customer Usage Insights

Real-Time Energy Usage within the Sense Mobile Application



Additional Load Disaggregation Insights Provided within Sense Mobile Application



These images are for illustrative purposes and may differ slightly from the current app experience.



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Sense Data Privacy & Security

- Sense's Privacy Policy includes key points such as:
 - Customer data will not be shared with third parties, nor do customers currently have the option to authorize the sale of their data.
 - Customer data cannot be sold to third parties under any circumstances.
 - A customer can request to have his or her data destroyed by Sense.
- Sense has automated and manual controls and tools in place and a compliance automation platform that assess infrastructure and services against industry standards.
- In the event of a data breach - Sense will coordinate with relevant stakeholders, including the Company and customers, to help ensure timely response to and communication of breaches to impacted parties, closely considering the nature of the breach and reporting requirements as set forth by applicable laws and regulations.
- Sense has completed all RIE required cybersecurity requirements.



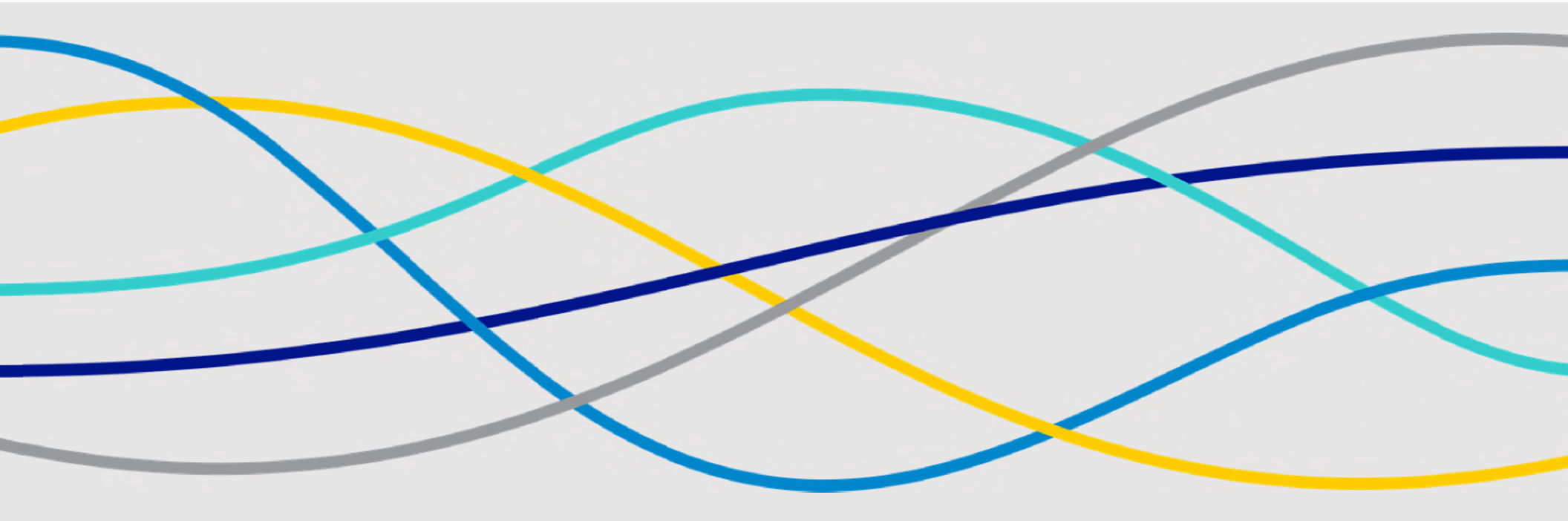
Sense User Support and Communications Plan

User Support

- Sense will provide customer support for Sense-related questions. RIE contact center will also be equipped with information about Sense-related frequently asked questions.
- RIE will have a dedicated Sense Admin who will work with Sense on any escalated concerns.
- Customers using Sense will also have access to a support library within the Sense mobile application and website as well as a virtual assistant.

Communications

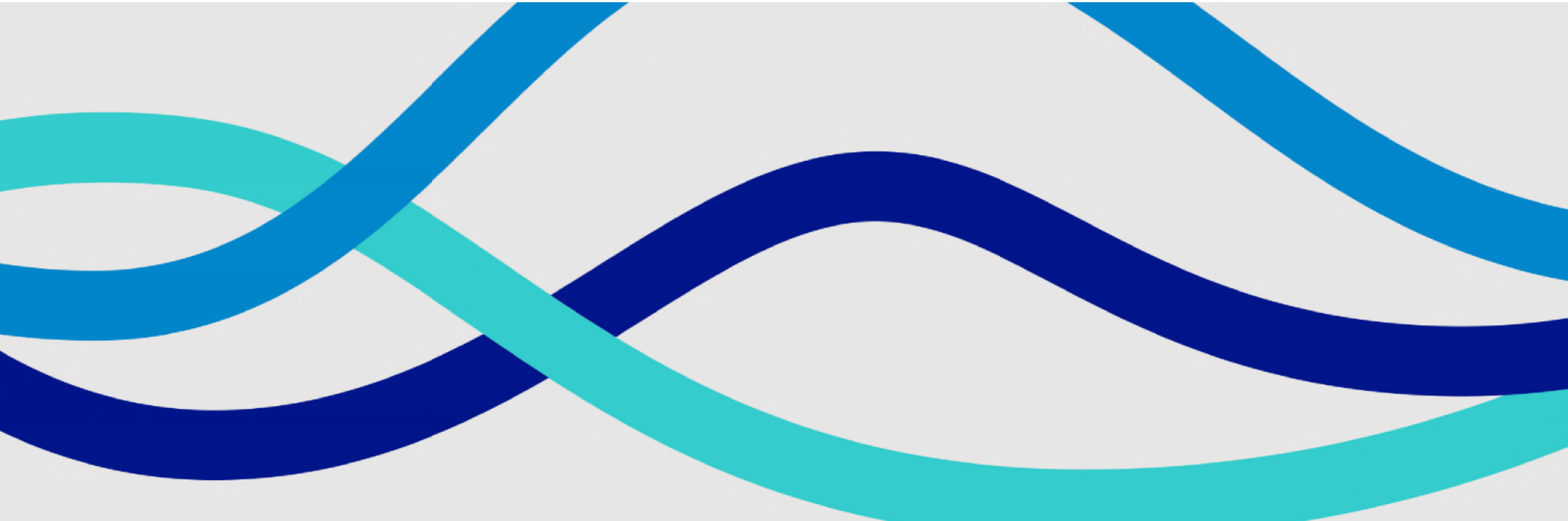
- Customer communications around Sense will begin in early 2026 via different channels such as:
 - The Rhode Island Energy Website
 - Email Notifications
 - Frequently Asked Questions
 - Fact Sheets
 - Social Media
- Sense also has support library on its website that the Company will share with customers.



Home Area Network Questions



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Grid Edge Computing



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Grid-Edge Computing Overview

- Grid Edge Computing or “edge computing” is a computing platform where data is gathered close to its source and analyzed by applications installed on the meter to both enhance the customer experience and utility operations.
 - **Utility Facing Applications:** Applications that a utility can install on the meter that provide data back to the utility.
 - **Customer Facing Applications:** Applications that a utility can install on the meter that customers can enroll in to receive insights.
 - Sense is a customer-facing application and the only grid-edge application being deployed as part of the AMF project.
- The Company’s AMF Project is installing meters, network and systems to enable the evolving Grid-Edge Ecosystem.
- In the future, the Company will determine the applications to be installed on meters, the associated implementation plans and utilize the appropriate mechanism for cost recovery.



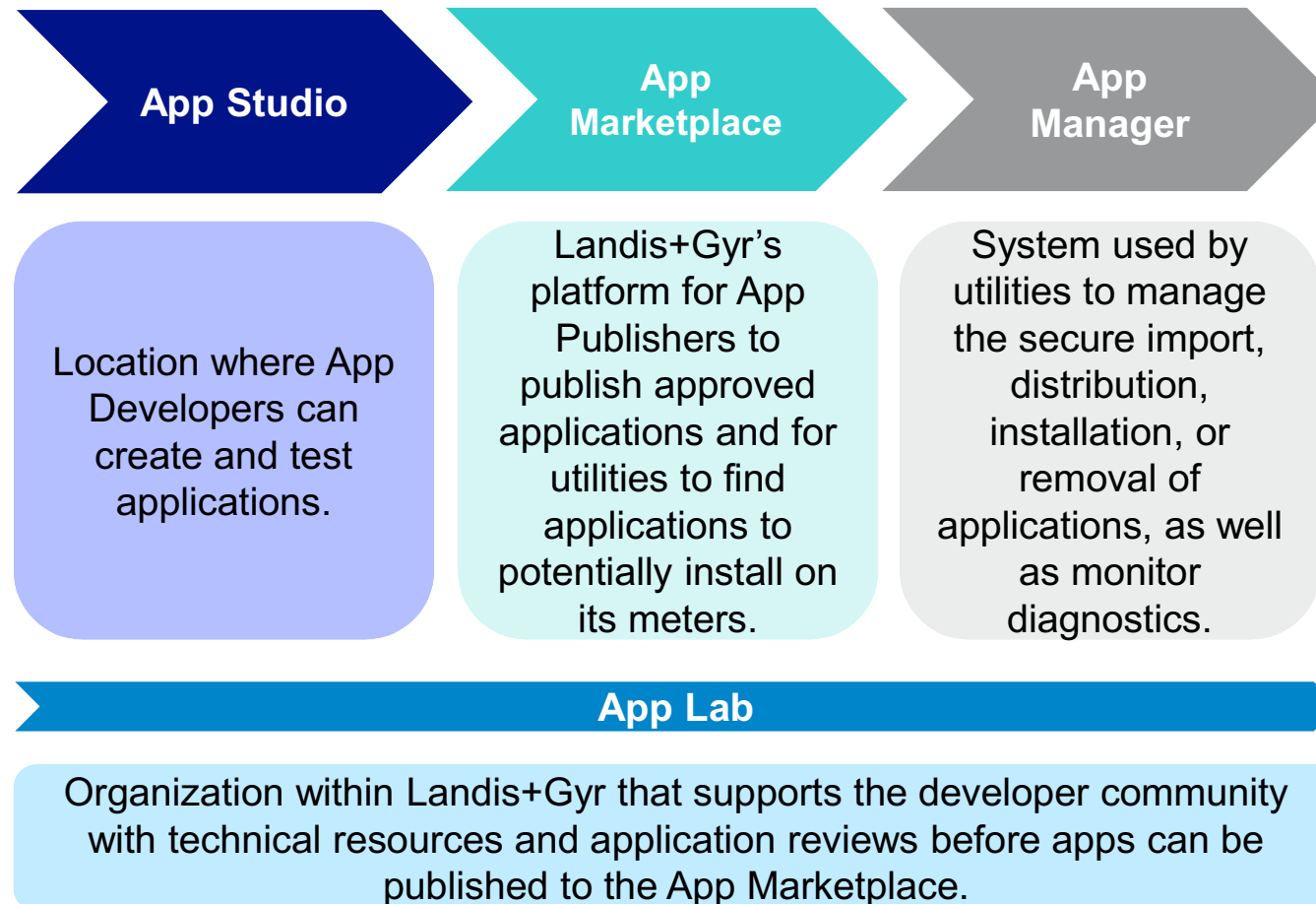
Roles in the Grid-Edge Computing Environment

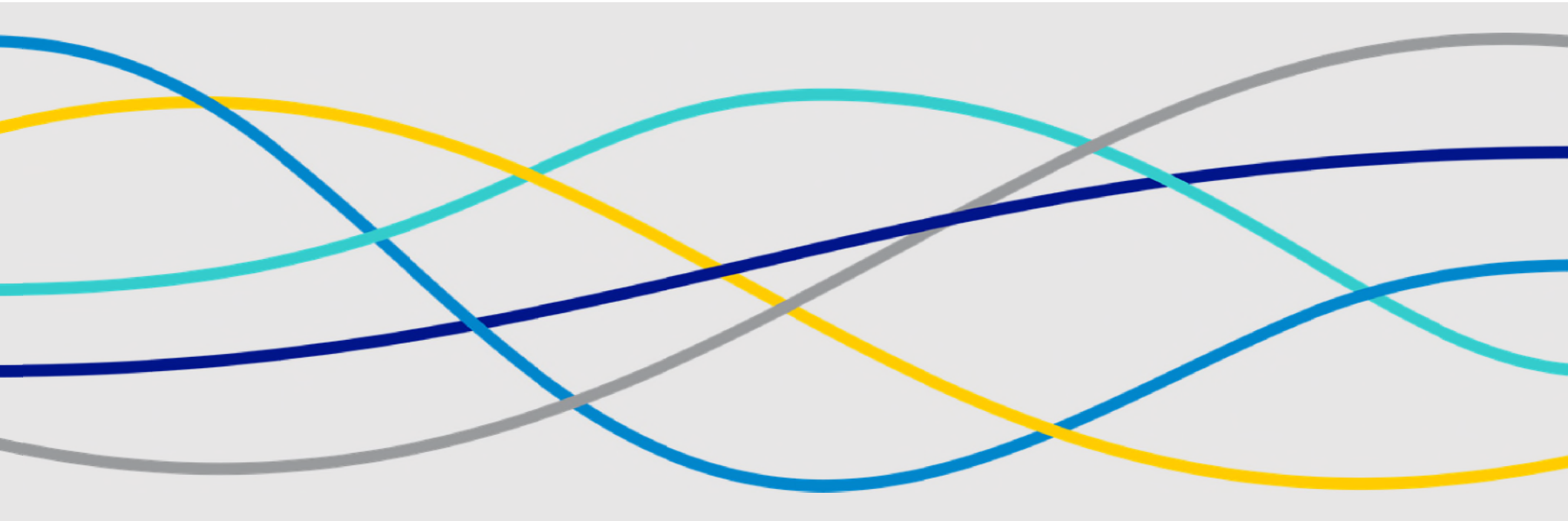
Role	Description
Landis+Gyr	<ul style="list-style-type: none"> • Manage the Application Ecosystem including app development tools and guidelines, security reviews and approval.
App Developers	<ul style="list-style-type: none"> • Pays the yearly developer license fee to gain access to the App Studio development environment and shared resources. • Create apps within the App Studio utilizing the Landis+Gyr software development kit and submits for review by Landis+Gyr.
App Publisher	<ul style="list-style-type: none"> • Publishes approved applications to the App Marketplace and has a signed publisher agreement in place with Landis+Gyr that sets forth terms and conditions such as revenue sharing for any purchased applications. • Adds approved applications to the App Marketplace. • Can be either the App Developer or any entity that hires a third-party App Developer to create its application.
Rhode Island Energy	<ul style="list-style-type: none"> • Select and installs applications on its meters via its head-end system and network. • Ensures app complies with Company’s technical requirements and security requirements to be loaded on the meter’s EIC.



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Application Lifecycle





Grid Edge Computing Questions

SCHEDULE WH-2

The Narragansett Electric Company
d/b/a Rhode Island Energy
RIPUC Docket No. 22-49-EL
In Re: Advanced Metering Functionality Business Case
and Cost Recovery Proposal
Responses to Record Requests
Issued at the Commission's Evidentiary Hearing
On July 27, 2023

Record Request No. 11

Request:

Please explain the differences in the Business Case as filed if the Company were to use Sense to provide the relevant functionalities in Figure 6.3 as compared to the original proposal. Include the estimated cost difference, which categories those costs affect, whether the change would fall under the proposed cost cap, and any timing differences compared to Figure 6.1.

Response:

Sense is a home energy monitoring software that is pre-installed on Landis+Gyr's Revelo meter. Sense uses high resolution waveform voltage data to power real-time customer experience on energy usage with details to the device or appliance level. In the originally filed AMF Business Case, the Company proposed to enable Sense as the solution for the Load Disaggregation and Waveform Analytics functionalities captured in Group 6 of the AMF functionality roadmap in Figure 6.1, Bates Page 70, Book 2 of 3 and Figure 6.4, Bates Page 74. Under the original proposal, Sense is not included in the AMF functionalities during meter deployment listed in Figure 6.1, Bates Page 70, Book 2 of 3.

The Company originally estimated the availability of Sense specifically for load disaggregation functionality for customers in Year 6 of the BCA. The cost to enable the load disaggregation functionality is captured in the BCA and Attachment H BCA Narrative under the Grid Edge and Load Disaggregation line item of the Systems cost category and is included in the proposed \$289 million cost cap. The intention was to enable this capability with no change to the Sense offering, meaning no customizations for functions or joint branding with Rhode Island Energy. For a general video demonstration on how the Sense app works between the Revelo meter, the customer's energy use, and the Sense App running on the customers' smartphone, please see the video available at <https://www.youtube.com/watch?v=o6WqYs0LqI4&t=85s>.

During the AMF hearings, Rhode Island Energy witnesses discussed the potential to use Sense as the customer Home Area Network or "HAN" solution. Rhode Island Energy could use Sense as the solution to enable the CP: In Home Device Support functionality, which is included in the originally filed AMF Business Case as part of Group 3, as shown in Figure 6.1 on Bates Page 70, Book 2 of 3 and listed in Figure 6.3 on Bates Page 72, Book 2 of 3. The CP: In Home Device Support functionality is described in the AMF Business Case and was referred to in the AMF hearings as the Home Area Network or "HAN." The CP: In Home Device Support cost is captured in the customer engagement line item of the Systems cost category.

The Narragansett Electric Company
d/b/a Rhode Island Energy
RIPUC Docket No. 22-49-EL
In Re: Advanced Metering Functionality Business Case
and Cost Recovery Proposal
Responses to Record Requests
Issued at the Commission's Evidentiary Hearing
On July 27, 2023

If the Company were to use Sense to enable the CP: In Home Device Support functionality (the HAN functionality) as part of Group 3, the Company also would enable the load disaggregation functionality (originally proposed in Group 6) at that time. This would enable real time energy usage viewing by customers via the HAN, along with details of energy used in the home provided by the load disaggregation functionality via Sense. A customer would connect to the Sense app from their device over their Wi-Fi connection behind the meter. Rhode Island Energy envisions the inclusion of the CP: In Home Device Support / Home Area Network functionality would involve the creation of a joint branded landing page, links to the landing page from the Rhode Island Energy website, and other customizations that jointly brand Rhode Island Energy and Sense.

The cost to enable the load disaggregation functionality in Group 3 rather than Group 6, along with CP: In Home Device Support in Group 3, is a net OpEx increase in Years 1-4 of \$72,414 in the Grid Edge and Load Disaggregation line item of the Systems cost category as compared to the originally filed AMF Business Case. This net OpEx increase results from a (\$60,788) decrease in the customer engagement line item and a \$133,202 increase in the Grid Edge & Load Disaggregation line item. The increase in the Grid Edge & Load Disaggregation line item occurs because the Company would commence Sense services earlier than originally proposed (i.e., from year 6 to the end of year 3). The decrease in the customer engagement line item occurs because of the shift to use Sense for the CP: In Home Support / Home Area Network, which reduces the incremental IT Maintenance provided by PPL Services.

Over 20 years, the cost is a net OpEx decrease of (\$318,520). The net OpEx decrease, contained within the Systems cost category, is a result of a (\$574,677) decrease in the customer engagement line item offset by a \$256,157 increase in the Grid Edge & Load Disaggregation line item. The reason for the decrease in the customer engagement line items is the shift to using Sense as the CP: In Home Support / Home Area Network which reduces the incremental IT Maintenance provided by PPL Services over the 20 years. The reason for the increase in the Grid Edge & Load Disaggregation line item is earlier start to the use of Sense services than originally proposed (i.e., from Year 6 to the end of Year 3).

There would be no change to the estimated CapEx costs for any year as a result of the shift in timing to use Sense. The Company would develop a jointly branded landing page(s) and other customizations for the Sense app to match the proposed CP: In Home Support function.

Overall, Rhode Island Energy would seek an additional \$72,414 in OpEx in Years 1-4 to account for the acceleration of load disaggregation capabilities from Group 6/Year 6 to Group 3/Year 3/Month 12, if the cost cap was to apply to Years 1-4 only. For Years 1-20 BCA, the forecasted total costs would be reduced by (\$318,520) in OpEx.