

Exhibit CENH-1

User Stories Narratives

BACKGROUND & INTRODUCTION

User stories illustrate the desired outcomes of major user groups (defined below) utilizing the statewide Energy Data Platform. As part of the agile software development process, we suggest the following major user groups, their use case premises and user stories for the consideration of the Commission. This list of user stories is not intended to be comprehensive or final, but is offered as a starting point for further discussion. This format was deemed useful by the DE 19-197 intervenors during the technical sessions and informal discussions of the past several months as a means of documenting outcomes in a specific, succinct, and non-technical manner so that all parties could participate in productive discussions about the goals and priorities for the Platform.

We propose that a finalized set of user stories be included in the final ruling by the Commission so that the intended outcomes for the Platform are documented in an accessible and testable fashion. This will allow the Commission and intervenors to ascertain whether or not the completed Data Platform is effectively meeting all of the desired outcomes.

This exhibit of User Stories was compiled through a collaborative process that included discussions and engagement with many of the intervenors in DE 19-197. This document is an attempt to capture as many as possible of the desired outcomes that were articulated through various channels during this collaborative process that preceded the filing of testimony. We are open to the possibility that, through the remainder of this adjudicative proceeding, these user stories may be refined and improved upon further by way of input from and collaboration with other parties to this proceeding.

1 **DEFINITIONS**

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3 • **Major user groups** are the individuals, groups or entities that will use the Energy Data
4 Platform. We organize users into six major user groups: customers (C); third parties (TP);
5 Community Power Aggregations (CPA); government (PUC); utilities (U); and Electric
6 Grid Modernization (GM).

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8 • **User story premises** are the broad goals of a major user group.

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10 • **User stories** are specific achievable outcomes enabled by the Data Platform, which were
11 identified by various intervenors in DE 19-197. Each user story is prioritized in this
12 narrative as “high priority” (meaning it should be part of the Platform from the outset or as
13 soon afterwards as possible), “low priority” (it can be delayed to a later iteration of the
14 Platform if necessary), or “future” (it will not be needed until other aspects of New
15 Hampshire’s energy landscape mature further).

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Customers User Stories (C-)

Customer User Story Premise: A customer needs to be able to access energy solutions that provide energy usage savings, revenue opportunities, and environmental benefits.

High Priority Customer User Stories:

C-1 A customer needs to be able to share his/her historic energy information (usage, cost/billing info, etc.) held by a utility with a Third Party (any non-utility entity such as distributed energy resource (DER) provider, CPA, non-profit, competitive supplier, etc.) in order to determine whether a certain service or product is a good fit for the customer. For example, this could include sending energy information to (i) a rooftop solar provider for getting a price quote; (ii) a competitive supplier to receive a price estimate; (iii) to a storage provider to determine the appropriate size of behind-the-meter battery storage; and many other examples.

C-2 A customer needs to be able to share his/her ongoing energy information (usage, cost/billing info, etc.) held by a utility with a Third Party (any non-utility entity such as DER, CPA, non-profit, competitive supplier, etc.) in order to use a service, such as a DER. Some examples include, but are not limited to, monitoring of post-retrofit energy efficiency; gathering residential or commercial and industrial (C&I) usage data for demand response settlement and ongoing management; verifying performance of behind-the-meter battery storage over time. This use case might be combined with User Story C-1 – for example, a customer might execute requests for both historic and ongoing information at the same time.

1 **C-3** An individual customer needs to be able to download their historical data so they can
2 analyze it for opportunities or get customized recommendations about the potential energy and
3 economic impacts of changing energy suppliers or rate plans, installing PV/batteries/other DERs,
4 or making other changes to their energy use. This might not involve an explicit relationship with
5 a third party if the customer is using a software tool directly.

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7 **C-4** A customer needs to know that their personally-identifiable information will not be
8 released to any party without their consent so that they can use the platform without concern for
9 their privacy. That consent may be granted to a CPA by virtue of not opting out from a municipal
10 aggregation initiation, or as part of an opt-in service initiation with another third-party provider.

11

12 Future Customer User Stories:

13 **C-5** A customer needs to be able to share historic and ongoing energy information for multiple
14 fuels in addition to electricity. This includes the ability to share gas information per the same
15 requirements as electric information.

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Third Party User Stories (TP-)

Third Party User Story Premises:

- A third party, such as a CPA or competitive energy supplier, can provide customers different choices for energy suppliers and rate structures to reduce energy bills.
- A third party, such as a DER or energy service provider, can provide customers custom energy solutions not requiring grid interconnection (energy efficiency, demand response) that reduce energy bills.
- A third party can provide customers custom with energy solutions requiring grid interconnection (solar, storage, electric vehicles, electric vehicle chargers etc.) that reduce energy bills while minimizing grid constraints and interconnection costs.
- A third party can provide customers with custom energy solutions requiring grid interconnection (solar, storage, electric vehicles, electric vehicle chargers etc.) that reduce energy bills, minimize grid constraints and interconnection costs, and create new revenue opportunities by both bidding and settling transactions for grid services such as capacity, demand reduction, hosting capacity, power quality, reliability etc.
- A third party can participate in the wholesale energy market as a load serving entity for the purpose of procuring or selling electrical energy or capacity on behalf of its participating retail electric customers, including itself.
- A third party can provide visibility into deployed solutions to the utility, communities, government agencies, and other entities for the purposes of maintaining reliability, tracking and meeting energy goals, etc.

- 1 • A third party provides customer service to answer customer questions about bills to support
2 the energy solutions it provides.

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4 High Priority Third Party User Stories:

5 **TP-1** A third-party energy service provider needs to be able to access energy data so that it can
6 offer services to customers across the state of New Hampshire in multiple distribution utility
7 territories without incurring multiple costly data integration efforts with every individual utility
8 provider.

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10 **TP-2** A third party needs to be able to convey customer authorization and request billing data
11 from a utility through a fully-automated interface and receive at least three years 15-minute interval
12 data (or the finest resolution available, if 15-minute is not supported by their meter) in a standard
13 format such as Green Button within 30 minutes of making the request.

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15 **TP-3** A customer with multiple buildings across different utility territories needs to be able to
16 access data from all of their buildings in a common format in order to view and analyze the data.

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18 **TP-4** A competitive energy supplier, Community Power Aggregation (CPA), or authorized third-
19 party provider needs to be able to access a customer's updated electric and/or gas meter reading
20 data as soon as that data has been collected from the meter and verified appropriately so that they
21 are able to make fully-informed decisions on the best energy solutions to use, save, store, generate,
22 or export energy in their homes and businesses.

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1 **TP-5** A customer or third-party needs to be able to access standardized representations of all
2 available tariffs for a given meter service point so that they can accurately calculate hypothetical
3 bill costs for a historical or proposed future monthly and hourly energy and demand profile.

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5 **TP-6** A third party needs to know how much its customers' energy use costs to deliver at different
6 times of day and year so that it is able to offer its customers time-varying-rates (TVR, such as time
7 of use (TOU) and real-time pricing (RTP)) and bill them accurately so that it can procure low-cost
8 energy, generate their own energy and/or reduce their energy usage at the appropriate times of day
9 and year and distribute those costs equitably among its members.

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11 **TP-7** A third-party customer service representative needs to be able to access customer bills and
12 supporting data in a timely fashion (minutes, not days or hours) in order to answer customer
13 questions over the phone or in an online interface.

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15 **TP-8** An individual customer, authorized aggregator, or a CPA serving a customer needs to be
16 able to access both raw meter reading and billing determinants and how that customer's incurred
17 cost is broken down by various fixed and variable components, including energy, fuel surcharge,
18 Renewable Energy Credits (RECs), demand, capacity, etc. so that they can plan relative to
19 expectations about how those cost components might change in the future.

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21 Low Priority Third Party User Stories:

22 **TP-9** A customer or third party needs to know whether they will be able to site a distributed
23 energy resource (DER) behind their meter, whether there will be utility fees associated with the

1 interconnection, and how much that DER's grid services will be worth at that location, in order to
2 make a decision about whether that DER is a good investment.

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4 **TP-10** A third party needs to be able to respond to price signals and requests for proposals (RFPs)
5 with robust DER solutions that can provide grid services to support the distribution planning
6 process. A third party needs to understand the system conditions including system topology, the
7 rating of assets, their relative relationship of assets to each other and the specific grid
8 characteristics of those assets (capacity, hosting capacity, power quality, reliability etc.).

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10 **TP-11** A third party needs to access near-real-time, highly granular data in order to participate in
11 wholesale power markets, including engaging in settlements. This requires access to granular
12 interval usage data of a customer at the interval required for settlement.

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14 Future Third Party User Stories:

15 **TP-12** An independent system operator (ISO) such as ISO-NE can access information for any
16 market settlements. This requires granular interval usage data for participating resources at the
17 interval required for settlement.

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19 **TP-13** A third party needs to be able to provide utilities, communities, and government agencies
20 up to date information so that they can demonstrate the value of their services. Utilities can
21 leverage this information for distribution planning including procuring services from deployed
22 solutions while communities and governments can track solution deployments to meet energy

1 objectives. This includes information on the operational characteristics and location of deployed
2 solutions.

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5 **Community Power Aggregation User Stories (CPA-):**

6 CPA User Story Premises:

- 7 ● A community (municipality or county) wants to manage their energy on behalf of its
8 residents for purposes including saving resident's money, meeting local climate & energy
9 goals, and developing innovative and competitive retail electricity markets.
- 10 ● A community needs to be able to onboard and manage energy services for individual
11 customers who do not opt out of or who consent to being included in an aggregation
12 program.
- 13 ● A community needs to provide customer service to individual community residents to
14 support any energy services provided including providing accurate energy bills and access
15 to customer service representatives.

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17 High Priority CPA User Stories:

18 **CPA-1** A community needs to be able to access anonymized, but not aggregated, energy
19 use data from all accounts in their jurisdiction in order to analyze the options for procuring different
20 energy supply or demand reduction and flexibility resources that will lower costs and/or
21 environmental impacts of all the residential, municipal, and business energy use in their
22 jurisdiction, regardless of which distribution utility is currently serving that customer. This process

1 examines the most cost-effective options for each individual load-shape in the population and then
2 aggregates those options to explore policies at the community level.

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4 **CPA-2** A community needs to be able to access hourly (or better) energy data that can be
5 aggregated by rate class in order to measure the retail cost, CO₂ and other impacts of its energy
6 use on an hourly, marginal basis. This analysis will allow the community to determine if it is
7 meeting its goals for reducing the energy burden and climate impact goals set by the community.

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9 **CPA-3** A CPA needs to be able to access the full list of names, physical addresses, and
10 contact information for all customers in its service territory from each distribution utility that is
11 currently serving them so that it can communicate with them and notify them of the upcoming opt-
12 out decision they need to make. Note that the contact information for customers (ratepayers) is not
13 necessarily the same as the contact information that the municipality may have for the taxpayer
14 listed for a building, as tenants often pay their own utility bills.

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16 **CPA-4** A CPA needs to be able to receive utility meter data promptly after the distribution
17 utility reads the meter so that it can issue a bill to an individual customer and collect payment. The
18 CPA also needs to know past energy use, which tariff(s) the account is on, and past payment history
19 of the customer.

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21 Low Priority CPA User Stories:

22 **CPA-5** A CPA needs to be able to conduct consolidated billing so that it can present the
23 customer with a streamlined bill.

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CPA-6 A CPA needs to be able to access load data with adequate granularity and latency to allow it to settle with all load-serving entities that supply its members, based on the hourly load and other grid services its members participated in.

Future CPA User Stories:

CPA-7 A CPA needs to be able to add and update customer records to the platform so that it can support customers with adding or changing service.

CPA-8 A community wants to analyze the options for taking actions to lower costs and/or environmental impacts of all the residential, municipal, and business energy use in their jurisdiction. This process examines aggregated gas usage in addition to electricity usage.

Government (PUC-):

PUC User Story Premises:

- The Public Utilities Commission (PUC) can review utility rate case proposals and ensure any approved proposals meet the least-cost planning framework and consider alternatives to traditional capital investments when those alternatives may be capable of satisfying a grid need at least cost.
- The PUC can conduct rate design to meet the evolving needs of the grid.

1 High Priority PUC User Stories:

2 **PUC-1** The PUC can conduct independent demand studies to verify the analysis provided
3 by utilities. This will require access to system topology, asset ratings and historical network
4 demand.

5
6 **PUC-2** The PUC can conduct an analysis to identify various rate design scenarios to
7 encourage customers to change their energy use to relieve grid constraints. This will require
8 customer interval usage data and existing tariff structures.

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10 **PUC-3** The PUC can conduct an analysis to identify various rate design scenarios to
11 develop Performance Based Ratemaking to realign utility incentives with additional outcomes
12 besides cost and reliability.

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15 **Utility User Stories (U-)**

16 Utility User Story Premises:

- 17 ● The regulated electric and gas utilities maintain the systems of record for meter and billing
18 data systems.
- 19 ● The utilities are also responsible for participating in distribution system planning,
20 maintenance and expansion.

- 1 • The quantity and size of distributed energy resources (DERs) is rapidly growing to the
2 point that it impacts distribution grid planning, but the distribution utilities do not own or
3 control these resources in many cases.

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5 High Priority Utility User Stories:

6 **U-1** A utility needs to be able to satisfy data requests from multiple authorized parties, including
7 customers, third-parties, CPAs, and others, using a standard format and transfer mechanism so that
8 these requests do not place an undue burden on their IT resources.

9 **U-2** A utility needs to receive updated customer name and contact information via a consistent
10 format and transfer mechanism from CPAs and other competitive suppliers so that it can perform
11 maintenance on poles, wires, meters, and other distribution system equipment that might require
12 communication with all affected customers.

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14 Low Priority Utility User Stories:

15 **U-3** A utility needs to know the location and specifications of DERs that are operating on its
16 distribution network so that it can integrate the expected performance of those DERs into its
17 distribution planning.

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19 **U-4** A utility needs to receive interval sub-metered energy performance data from DERs that
20 are operating on its distribution network via a consistent format and transfer mechanism so that
21 the utility can integrate the actual performance of those deployed DERs into its distribution
22 planning.

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Electric Grid Modernization User Stories (GM-)

Grid Mod User Story Premises:

- The Grid Modernization Stakeholder Working Group (GMSG) can review information on each utility's progress on hosting capacity analysis and presentation, locational value initiatives, and interconnection procedures.
- The GMSG and the Independent Professional Engineer (IPE) can participate in a collaborative planning process including the evaluation, selection, and prioritization of investments in a manner that accommodates changing customer expectations while also minimizing customer bill impacts.
- The GMSG and IPE can participate in a collaborative distribution planning process including considering alternatives to traditional capital investments when those alternatives may be capable of satisfying a grid need at least cost.
- The GMSG and IPE can participate in a collaborative distribution planning process including prioritizing and maximizing the use of energy efficiency and demand side resources investments when proposed options have equivalent cost, reliability, environmental, economic, and health-related impacts.
- The GMSG can examine and develop metrics for measuring system performance consistent with the Commission's statutory mandate and the distribution system planning objectives.

High Priority Grid Mod User Stories:

1 **GM-1** The GMSG and IPE can access Utility Baseline System Data in a timely manner and in a
2 format that can be easily digested and analyzed. This data is required to support their respective
3 functions per the Commission grid modernization order.

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5 Future Grid Mod User Stories:

6 **GM-2** The GMSG can review hosting capacity analysis and locational value initiatives to ensure
7 they provide the most accurate and up to date information while considering all the value streams
8 that alternatives to capital investments can provide. The GMSG needs the inputs, assumptions and
9 methodologies used for such analysis and also needs to understand the system conditions including
10 system topology, the rating of assets, their relative relationship of assets to each other and the
11 specific grid characteristics of those assets (capacity, hosting capacity, power quality, reliability
12 etc.).

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14 **GM-3** The GMSG needs to understand the system conditions including system topology, the
15 rating of assets, their relative relationship of assets to each other, the specific grid characteristics
16 of those assets (capacity, hosting capacity, power quality, reliability etc.) and locational value so
17 that they can consider alternatives to capital investments to meet grid needs and determine whether
18 they are technically feasible.

19