STATE OF NEW HAMPSHIRE

BEFORE THE

NEW HAMPSHIREPUBLIC UTILITIES COMMISSION

DE 19-197

Electric and Natural Gas Utilities

Development of a Statewide, Multi-use Online Energy Data Platform

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Table of Contents

1. Introduction to Witness: 2

2. Principal Testimony of Witness 3

Q. Please summarize your testimony. 3

Q. What vision will be achieved by building a statewide energy platform? 4

Q. What functionality should the Energy Data Hub initially deliver? 5

Q. How can the PUC define approaches that aid in the success of the software project? 10

3. Statutory Requirements 14

4. Governance – the Critical Element 15

1. Introduction to Witness:

Q. Please state your name, business address and occupation?

My name is Kat McGhee. My business address is 33 N State Street, LOB 304, Concord, NH 03301, as a member of the Science, Technology and Energy Committee of the New Hampshire House of Representatives. By profession, I am a Software Program Manager, retired, I hold a current Project Management Professional (PMP) designation from the Project Management Institute.

Q. On whose behalf are you testifying in this proceeding?

I am testifying as an Eversource customer and New Hampshire ratepayer on my own behalf and on behalf of the Local Government Coalition. As the chair of the House committee charged with passing the underlying bill (SB284) that initiated this proceeding, I was involved in many meetings and conversations with the Senate and House energy committees who sponsored and passed the bill in 2019. In having worked with the utilities and other energy stakeholders from then until now, I hope to identify both the benefits of the statewide, energy data platform and some of the foreseeable obstacles that warrant PUC consideration.

Q. Summarize your qualifications and experience:

I hold a Master of Education degree from Cambridge College and have held a Project Management Professional designation from the Project Management Institute or the past 16 years. My most recent position was at Skillsoft e-Learning Corporation where I was a Software Program Manager in the Program Management Office. I supervised a variety of international, cross-functional teams in the engineering division for Skillsoft. Enterprise-wide project management was my primary role in the prior 15 years of my career at John Hancock Financial Services in Boston where I worked as a dedicated consultant to the Chief Information Officer from the Technical Education Center on Organizational Development My expertise is in the people and process side of making complex, technology-based projects achieve their intended aims. Beyond my professional

experience, I have gained knowledge on the New Hampshire and New England energy landscape as both a citizen activist during the Northeast Energy Direct (NED) gas pipeline project and as an community volunteer serving as the Chair of a town task force on the (NED) Kinder Morgan project and the Hollis representative to the Nashua Regional Planning Commissions' Energy Facility Advisory Committee. Interacting with state and regional energy agency leaders and testifying in legislative proceedings on potential energy projects, I built knowledge based on the history and changing characteristics of the New Hampshire energy portfolio and the regional planning efforts of the Independent System Operators of New England I (ISO-NE).

Since joining the Science, Technology & Energy Committee in November of 2018, I have benefited from input of energy sector subject matter experts, including the state's utilities, NEPOOL, NH Electricity Coop, Clean Energy NH, and NH DES. I have attended conferences, hearings and workshops including the most recent 10-year strategic planning session of the ISO-NE in Boston during the fall of last year. During that conference, at which members of both the NH PUC and the NH Office of Strategic Initiatives were in attendance, the keynote speaker (and closing panel) spoke of the need for a tool that that could bring better visibility to the ISO New England and other stakeholders of the distributed energy resources (DER) connected to the distribution grid and the role they play in the New England power system. The keynote speaker spoke candidly about how our lack of energy data insight was the primary impediment holding back the optimization of grid modernization, distributed energy integration and energy efficiency. It is this type of industry knowledge that prompted me to intervene in docket DE19-197.

2. Principal Testimony of Witness

Q. Please summarize your testimony.

As a longtime software program manager, my testimony will focus on the insights and approaches I see as necessary in order to launch a successful software project on

behalf of the state of New Hampshire. I base my testimony on the knowledge gained from working with the OCA since the spring of 2019 and on the outcomes defined through a process of creating User Stories during the Technical Sessions by the most active intervenor parties to the DE19-197 docket on the development of an Energy Data Hub (a term coined by Clean Energy New Hampshire). My testimony augments the Local Government Coalition testimony of Clifton Below, Amro Farid, Samuel Golding, and April Salas. In the field of software project management, defining good processes and hiring the right people are key factors to the success of a project that are often overlooked. The context of the software project, which is unfortunately being conjoined with the adjudicative process, requires nuanced approaches to the people and process aspects of its leadership, collaboration, technical decision-making and on-going governance that will shape its success.

Q. What vision will be achieved by building a statewide energy platform?

A. The meta vision for a statewide energy data platform is that it can portray the distributed energy system beyond traditional electric and gas utility areas and give the state, NH utilities and other energy stakeholders greater knowledge to inform their energy planning decisions and investments. The findings section of SB284, which is Chapter 286:1, NH Laws of 2019, lists the reasons for establishment of an energy platform as follows:

> *I. In order to accomplish the purposes of electric utility restructuring under RSA 374-F, to implement fully the state energy policy under RSA 378:37, and to make the state's energy systems more distributed, responsive, dynamic, and consumer-focused, it is necessary to provide consumers and stakeholders with safe, secure access to information about their energy usage. Access to granular energy data is a foundational element for moving New Hampshire's electric and natural gas systems to a more efficient paradigm in which empowering consumers is a critical element. By enabling the anonymized aggregation of community-level energy data and requiring a consent-driven process for access to or sharing of customer-level energy usage data, the state can open the door to innovative business applications that will save customers money, allow them to make better and more creative use of the electricity grid as well as other utility services, and facilitate municipal and county aggregation programs authorized by RSA 53-E. Such a program of robust data is also likely to be useful in local planning, conducting market research, fostering*

increased awareness of energy consumption patterns, and the adoption of more efficient and sustainable energy use.

II. Implementation of a multi-use, online data platform is, in light of electric industry restructuring pursuant to RSA 374-F, well-calculated to advance the objectives of recent and ongoing proceedings at the public utilities commission, including IR 15-296 (Grid Modernization), DE 16-576 (Alternative Net metering Tariffs), DE 15-137 (Energy Efficiency Resource Standard), and DE 17-136 (implementation of Energy Efficiency Resource Standard for 2018-2020).

An automated energy data hub supports all kinds of immediate needs for energy stakeholders trying to understand their investments and their overall energy portfolio, but it can also be employed to support automated reporting toward such strategic functions as integrated resource planning, DER load management and asset optimization for greater efficiency and cost savings. These features would be based upon the use of systems data that is not currently agreed to as part of the initial development project. But the intent of a statewide data platform is that it will help drive innovation in NH's energy economy today and support strategic improvements like grid modernization and energy efficiency efforts tomorrow. That means the project itself needs to be conceived as a swiss army knife for energy data. In an information age, this means that the Energy Data Hub will be built with a finite set of requirements and achieve a specific set of outcomes, but it will be architected to accommodate new energy data types and sources, along with more robust queries as time and energy management activities require and maintenance costs allow.

Q. What functionality should the Energy Data Hub initially deliver?

During the Technical collaboration on this docket a finite set of User Stories was developed to define the features of the platform in its initial iteration (See Appendix A to Ethan Goldman's testimony). Earlier versions of these User Stories have been widely circulated and acknowledged by most stakeholders in the docket as a reasonable set of clear objectives. That is a huge hurdle toward being able to pursue an RFI/RFP because it clearly defines the outputs of the system and the various energy data seekers who will be served as well as the systems' attributes required in terms of support for state of art security, data handling, change-management procedures and versioning protocols. The User Stories were developed to be compatible with agile software development

methods. Agile software teams use a specific set of methods and tools to achieve rapid turnaround of software that can be tested and improved in a cycle until the defined 'sprint'(bundle of agreed upon requirements for that short development cycle, generally 2-4 weeks) is declared complete. Agile is basically a rapid software development method that focuses a team with all the skills needed to complete the coding, bug fixes and testing, to learn, adapt and move on through the requirements leveraging their collaboration as an accelerant. The reason this project lends itself to an agile approach is that this is the most efficient software method to limit the time to market, which in turn limits the cost, while being capable of delivering an innovative and sophisticated data system where there are lots of unknowns at the outset.

The feature definitions listed in RSA 378:51 relate to deliverables of the software aspect of the project. How each will be delivered will come down to the decisions of the software team as part of the development of their project sprints. That sprint plan will define the scope, timeline and cost to deliver the NH Energy Data Hub. If the PUC orders that the project be run using the agile software method, which the utilities software leads have also agreed is the best approach, then by definition, the project will be integrating existing national (Green Button) & logical, energy data model standards (as was recommended by the OCA ; further defined by Dr. Amro Farid) because they are defined in the law as a required outcome .

The project will also be required to include: an easy to use interface, supporting relational data-sets, opt-in access/permissions and a data privacy policy consistent with RSA 363:38 , as well the ability to allow for municipal utilities and deregulated rural electric coops to join in the use of the platform and share data subject to conditions… these are the defined deliverables of the system to be developed. These were listed up front as being integral to the success of the software project, but how these features are delivered in a cohesive plan, cannot truly be defined until someone who understands both the software and the energy universe is engaged to lead the project. The point here is that this list, as well as the list in RSA 378:51 (b) specifying the standards to be included:

”data accuracy, retention, availability, privacy and security, including the integrity and uniformity of the logical data model, would be incorporated into any software development plan.” It should be understood that these lists were included to provide a definitional framework of features that are essential to the proper construction of a state-of-the-art Energy Data Hub; it should not be construed as an expectation that the PUC must define the details of these technical aspects of the project. The PUC would include these terms in a ‘make it so’ order. If they are listed as requirements of the system, the PUC need not prescribe how the technical team meets those requirements.

Because this attempt to combine the extensive work of the OCA and the LGC in defining Use Cases into an initial set of User Stories to supply a clear definition of the outputs of the Energy Data Hub, I believe the User Stories document represent a reasonable universe of system functionality that is easy for non-technical stakeholders to consume. In the Local Government Coalition filings, I am aware that there are additional Use Cases that have been identified that may be appropriate to include in the scope of the initial project, or kept in mind for a future project that requires in consideration in the initial system design.

At a more granular level of functionality description (as evinced by the User Stories document) the platform will provide the ability to aggregate (roll up), anonymize (use energy data without revealing customer information) and integrate various types of metered electric energy data (electric, gas…) into a format that allows it to be viewed in a meaningful way. This is achieved by adopting a logical data model standard to which each electric data input source conforms, in effect making apples and oranges, appear as all apples for the sake of the energy data system in which the data reside. This provides New Hampshire with the ability to see all of its electric energy inputs combined and not in silos by type or utility area. The ability to define a municipal project, coop, or community power aggregator area in the system will provide the capability to ‘see’ our energy in the way we need to see it, to undertake meaningful management and to leverage elusive

efficiencies. Without this functionality, the project would not meet its defined set of data seeker outputs or its statutory definition.

In meetings with the utilities during the Technical Session's phase of the docket, we gained agreement on five energy data hub concepts (though specifics of each remain to be defined and this is largely due to the need for more discussion/collaboration than the process allowed) the fifth being the software project methodology:

1) a logical data model standard
2) individual utility customer data
3) aggregated and anonymized data
4) an extensible architecture
5) agile software development method

It should also be noted there was a good amount of discussion around the utility-proposed idea of building (or buying) a **virtual platform** (see a more fulsome definition in testimony of Ethan Goldman on behalf of CENH) that uses secure API's to transmit and translate data from disparate energy sources into consistent data formats that can then be served up by the Energy Data Hub. This approach has merit in that it adopts an architecture that works well for a nimble hub. The API structure is modular, if you will, and that means problems can be isolated and new functionality, easily and cost effectively tacked on as needed. Just as a decision needs to be made on whether to have a *Physical* or *Virtual* platform, the decision of whether to *Build* or *Buy* is also critical to defining the scope, time and cost of this software project. My view is that buying the services from a company or companies that do this work all day long is preferable. They bring a wealth of expertise that can aid in the process and they work under contract for specified outcomes, at a specified price, thus managing the economic risk.

This does not preclude the utilities' role by sourcing the software work, in fact, it simplifies the complicated relationship between being asked to design a system for everyone in a

marketplace, while being a major competitor in that marketplace. It also allows for a control of the costs by separating the billing for work from the utilities' IT resources to a separate vendor, better from a management perspective as well as separating a single class of stakeholders from the cost to build being passed on to the ratepayer. While on the subject of costs, I do not have enough information to devote a separate section to the idea of "reasonable usage costs being charged to data seekers as a way of off-setting costs recovered from utility ratepayers." My only comment from a process perspective is that having a fee for service model penalizes some users rather than supporting a state sanctioned data service for all where adequate permissions and authorities apply. If we are going to supply access to New Hampshire's energy data, the cost of development and ongoing maintenance should be absorbed into the cost of electric utility customer services. It should be viewed as an investment in a modern grid infrastructure.

Once an independent technical project leader is hired and put in place, the utilities can establish a management process for partnering with a vendor. The utilities would still be supplying their technical leads to provide oversight of the development and input into the decision-structure, but they would be outsourcing the day to day development rather than assuming a new project for utility IT resources. The view of the required cost for this scale of project, when priced by an energy utility to build in-house vs. a more-nimble utility API company that specializes in this work, is likely not even close. In fact, initial discussions on project cost by the OCA Finance Director revealed that there are vast differences in project pricing depending upon whether or not you are looking at companies who dedicate their business to this type of data project and have a well-defined RFP.

There are experts for hire in all of these fields and most utility software data companies have experience with the latest approaches to implementing data access, while providing *safeguarded* data services. So again, we do not have to have to answer these questions to be able write in an order that they be adequately answered within the scope of the project to come. The concept of the platform is embraced by those who long for transparency and innovation and the ability to

truly meet the vision of utility market deregulation and modernization. This project may well be equally resisted by those who do not view that 'new energy world' as either preferable (to the status quo) or profitable.

Q. How can the PUC define approaches that aid in the success of the software project?

As early as Spring of 2019, I became aware of a challenge to the State's pursuit of SB284. The challenge begins with the non-technical stakeholders trying to properly understand pieces of a software project that cannot be defined without the expertise of a technical software lead or data architect and a project plan. We have been attempting to answer questions that belong in phase 2 or 3 of a project, without actually having defined or initiated the project, for as many months as I have been involved. The adjudicative proceeding has added to the conflation of cross-purposes into the process, by asking for levels of detail on various features (change management, security standards, versioning…) because they are defined in the law, but that cannot be answered by anyone but the technical project leader who has not yet been engaged. We cannot price the project without defining its scope (deliverables) and timeframe (plan). With the existing high-level system requirements and the User Stories, it may be possible at the conclusion of discovery to put out RFI/RFPs for cost estimates from companies in the utility data space who do this type of work (configuring API's to translate energy data from source to server). But we should understand that unlike PUC dockets that do not include a software project component, there will be a lot of unknowns in terms of defining how problems should be solved in the automation of New Hampshire's energy data, that cannot and <u>should not</u> be written in stone before the project team is formed. What we have been doing is trying to develop a definitional framework that allows the project its best chance at success. In this regard, the well-intentioned efforts to include the proper elements of the software project in the bill and its resulting law, gave us the unintended consequence of forcing the PUC to ask for answers to questions best defined by a process that has not yet begun. This is in effect, a cart before the horse problem.

Another area where a clear set of approaches needs definition is in project leadership. There is the natural competition between energy stakeholders and differing views on approach even amongst the 3 major utilities that make assigning them the 'design' responsibility problematic in achieving the project's key objectives. To democratize the state's energy data is a new paradigm and it is not one that the utilities are embracing as a whole. The process of designing and developing a democratized Energy Data Hub must at the very least be objective. This is not to say we should design by committee, that too, is problematic. I suspect the reason the 3 utilities were named as the co-responsible parties for getting the design and operation pieces off the ground is that a project of this complexity must have a defined leader. The utilities have technical expertise, human resources and the ability to recover costs in a state where new budget allocations are a rarity, so they rose to the top of the list, even though they do not all view the ability to provide access to energy data and the attendant loss of control of that data, as a benefit to them or their customers. The lack of leadership from the state is also a problem. Stakeholder leadership will be important to governance, but for the software project that designs the energy data hub, it is the abdication of responsibility on the part of the state that yielded project ownership to the utilities. The PUC should consider how this process might be implemented so that the software project decision-making is not without broader input.

But events will proceed from the current reality! New Hampshire has no Department of Energy, our IT Department is not looking to take on a project of this scale, and in general, the state's inability to supply ownership & leadership for this innovative project has been a glaring issue that I raised in my original scoping document. The greatest challenge of this effort is making sure the usage of energy data is developed with the needs of all its stakeholders in mind. Although the utilities got the hot potato by statute, the PUC can and should outline a process by which a technical project lead who may be engaged by, but not employed by, the utilities is given the autonomy to manage the project without the influence of any (or all 3), of the major utilities to limit the global benefits of

an energy data hub or their competitors ability to utilize the system as intended by legislation and the resulting user stories. This means the design will still be technically under the utilities, but the process will be once removed for the sake of providing a tool that is not biased or limited in perspective or functionality.

Another issue that has arisen in terms of approach is the discussion about the use of systems data. This is another example of how the utilities business philosophy presents a narrowcast understanding of how data can be used, because it reflects their historical perspective and that view is somewhat in conflict with the objectives of the energy data hub. These discussions of what data is needed are appropriate, and they are part of the give and take of defining the project's scope. In a conference call with one of the utilities, a representative expressed the belief that talking about including systems data was 'dangerous'. This feeling may be derived from a sense in the utility community that systems data must be guarded for security reasons. In that light, it is a reasonable fear from their perspective; however, it belies the fact that New Hampshire is rightly pursuing the ability to keep current with energy data usage and grid modernization efforts being undertaken across the country. Other jurisdictions are grappling with all the same technical challenges from data standards to security – but these are solvable problems that are not preventing states from pursuing the ability to make their energy data into actionable information. Some of the utilities agree with this progress and are willing to discuss specific data types that can reasonably be provided and to provide reasons why others might be problematic. But this is an example of the need for an objective technical project leader being inserted into the mix, who is not representing any particular stakeholder perspective or interest, being appointed as soon as possible to take the technical aspects of the work forward in a stakeholder-agnostic manner.

Those of us with software experience have argued that working to exclude certain types of data as a means of minimizing the complexity of the system (and its testing phase) is a less effective approach than defining what the system needs to deliver and then developing the appropriate data

architecture to support it. That is how you build a better system. It is not a zero-sum game – but try explaining that to lawyers! If system data is not included in the flagship project, it is important to understand that the extensibility concept is meant to support the capacity for future expansion toward enhanced capability when the state is ready to pursue it. There is no bad data and there is no reason to exclude or preclude entire data types simply because it seems to remove complexity. It is a false choice.

The approach for designing this energy data tool needs to be consistent with Chapter 286:1, NH Laws of 2019: to create a ***more distributed, responsive, dynamic, and consumer-focused*** state energy data system. Acknowledging that the system will be dynamic tells us that the platform is not intended as a static tool – one and done. The Energy Data Hub acts as a foundation for moving forward on New Hampshire's strategic energy goals and must be designed to adapt to meet future goals as needed. In similar fashion to the requirement for *dynamism* and *extensibility*, the original language identifies the use of *a logical data model standard*, (originally set forth by the Office of the Consumer Advocate), to employ an existing national energy data standard to bring disparate energy data into a common, useful data format that supports robust reporting and analysis. The law also includes the definition of integrating and obtaining certification for the national Green Button standard; this requirement is also included as a way to state that New Hampshire wants to leverage existing energy security, delivery and accuracy frameworks to help us avoid costly reinvention of 'an available' wheel.

At some point during the proceedings, I started to hear the Energy Data Hub referred to as a customer utility tool. I believe this framing diminishes the original vision set forth in SB284. The 'customer-focus' of which I believe the RSA 378:37 language refers are the broad cross section of consumers seeking to produce, manage, sell, smartly consume, and analyze their own energy.

Language from Chapter 286:1, NH Laws of 2019 is useful to supply context here:

By enabling the aggregation and anonymization of community-level energy data and requiring a consent-driven process for access to or sharing of customer-level energy usage data, the state can open the door to innovative business applications that will save customers money, allow them to make better and more creative use of the electricity grid as well as other utility services, and facilitate municipal and county aggregation programs authorized by RSA 53-E.

Such a program of robust data is also likely to be useful in local planning, conducting market research, fostering increased awareness of energy consumption patterns, and the adoption of more efficient and sustainable energy use. . . .

Implementation of a multi-use, online data platform is, in light of electric industry restructuring pursuant to RSA 374-F, well-calculated to advance the objectives of recent and ongoing proceedings at the public utilities commission, including IR 15-296 (Grid Modernization), DE 16-576 (Alternative Net metering Tariffs), DE 15-137 (Energy Efficiency Resource Standard), and DE 17-136 (implementation of Energy Efficiency Resource Standard for 2018-2020).

3. Statutory Requirements

Q. Do you have any concerns about the statutory requirements?

Yes, it is somewhat problematic that the statutory requirements for this docket overlap with the need for a software project that should be independent of any particular energy stakeholder.

Under RSA 378:51, "Online Energy Data Platform Established" section 1 charges the commission with requiring "electric and natural gas utilities to establish and jointly operate a statewide, multi-use, online energy data platform." An important point to reiterate from this initial line is the lack any identified leadership from within the State of New Hampshire governmental framework. If a Department of Energy is hence established, it would be important to make sure they have voice on any pending project and in the ongoing governance for this statewide, energy data hub. Since the impetus for providing broader access to energy data is derived from the changing landscape of the deregulated electricity market and more specifically, RSA 53E:3, it is unfortunate that there is no readily available state agency configured to play a necessary role in the establishment and operation of the data platform. The reason the language might be problematic is that the establishment of the platform needs to be informed by more than the electric and gas distribution utilities. The

lens through which the utilities view data access is far too narrow to embrace the needs of the distributed energy market of the present and future.

It is true that the utilities play an invaluable role in the state's ability to establish a data platform for its energy needs, but it is important for the PUC to acknowledge that the distribution utilities have business incentives that may run counter to the establishment of a truly agnostic energy data hub. For this reason, I want to emphasize that it is only for the state's lack of a logical home for this project that the language of RSA 378:51-4 installed the utilities to "establish and operate" the platform in RSA378:51 and to "design and maintain" in RSA 378:52. This language does not preclude the creation of a coalition of key NH energy stakeholders dedicated to requirements' definition, vendor selection, Agile project implementation, rollout and communications strategies, establishing change-management and versioning protocols and advocating for the importance of pursuing a non-for-profit governance model in the Data Platform Council (terminology from CENH testimony). In fact, I would argue that this level of collaboration is essential to the success of the Energy Data Hub in the absence of direct and relevant state leadership.

4. Governance – the Critical Element

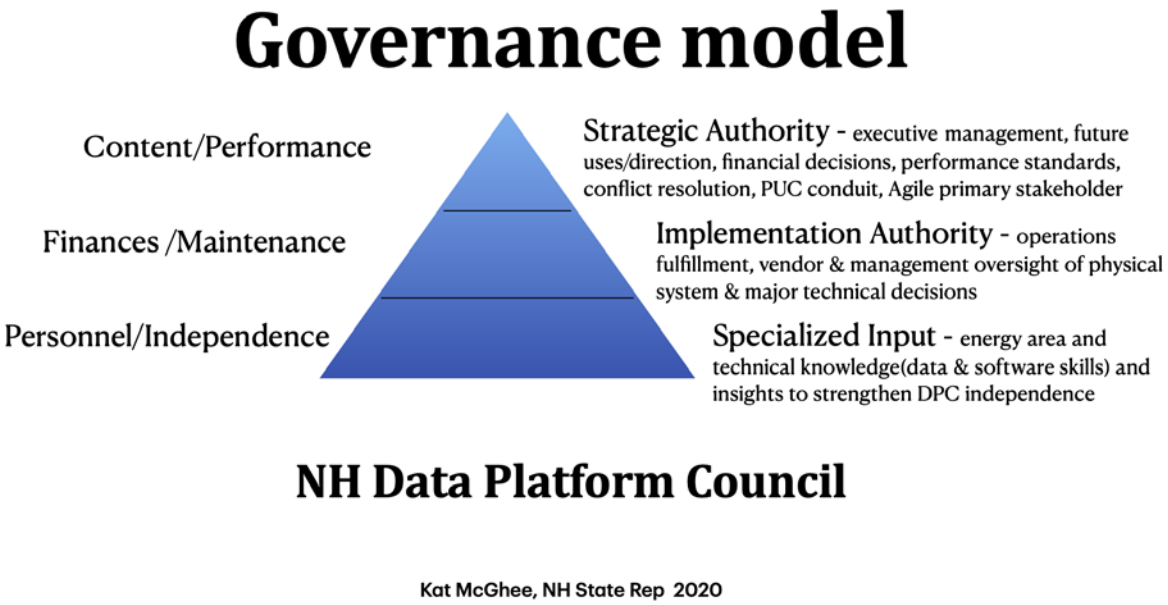
Q. What factors are necessary for creating a governance model that works?

On the topic of governance, the place to start is with the timing of the need for oversight and decision-making. In the absence of a ready-made body who has the expertise to properly manage an energy software project (many intervenors were eyeing the formulation of the Grid Modernization Stakeholder Working Group to potentially fulfill this role), it becomes extremely important to look at who is involved in critical decisions, from the start of the resulting order of this adjudicative process. Defining what types of resources and skills must be represented, identifying those participants and determining an appropriate make up of representative stakeholders is key.

In the meetings surrounding the Technical Session calendar, I pulled together some thoughts on Governance to aid a conversation and I am inserting the PDF diagram below. I heard the concern

in meetings with the Consumer Advocate that a governance body for the Energy Data Hub would need to have 'teeth'. To me, that means that both decision-making authority and independence, including an annual maintenance budget authority would be required to support nimble decisions that avoid bureaucratic delays that incumber efficient response time to critical issues.

Before I walk through the processes defined in the high-level diagram below, I want to say that I am in favor of launching the Data Platform Council simultaneous to the launch of the software project. This means the council will be involved with the project decisions as they evolve and this will help them develop a more sophisticated knowledge of features, issues and requirements. This level setting can only enhance the ability of those who serve as members on the stakeholder council. The timing of forming the Data Platform Council addresses the issue of assigning total authority for design and establishment of the platform to the utilities as that was clearly defined in the absence of any governing mechanism that could be authorized to ensure system decisions are relayed, understood and agreed to by a broader coalition of stakeholders to produce the best platform for the New Hampshire energy economy. So while the statute passes the hot potato to the utilities because they were the only available designee at the time the law was conceived and passed, the project success will be predicated on an ability to design and form a meaningful coalition of energy stakeholders who are involved with the platform from the start and for whom sufficient authority is established.



The top right side of the pyramid starts with ***Strategic Authority***: on the left side of the diagram are some corresponding components of a highly functioning governance council. They have vision and direction-setting responsibilities for content (which features and capabilities are included) and performance (the determine whether the platform meets identified standards and whether they must be improved) as they are being defined during the software project development. This requires governance to include what I've labeled as strategic authority. The council will be semi-autonomous (teeth) in its executive management of the platform: defining future uses, delivering financial decisions within their budget authority, and voting on conflict resolution. When there are issues that cannot be resolved or that exceed the base line authority of the council's annual budget (which is rolling and does not need to be spent, but will be predicated on a reasonable maintenance allowance plus a future-feature fund), then the PUC is to be used as arbiter. This creates ownership and authority and also democratizes control for the platform, while streamlining the red tape to decision-making.

The other major consideration for the council would be defining the standards for Data Platform Hub performance. I would recommend defining a performance based reward system to create a positive feedback loop for the utilities (as the major data source and platform data intermediary as well as the direct link to any API or platform vendor partner relationship); meeting or exceeding system performance goals around usage, bug fixes/turnaround time for fixes, query response time and processing of requests in general etc., The Data Platform Council will be responsible for defining the performance criteria and assessing whether the utilities are meeting their goals for providing adequate performance as an ongoing exercise. It there is to be a performance based monetary incentive program for the utilities, that would also need to be defined by the DPC.

The second rung of the pyramid is defined as ***Implementation Authority***. This governs operational fulfillment for the software project and the project as a whole, major vendor or contract decisions, management oversight of physical systems issues that require action or technical decisions related to operations maintenance of the system. These are not day to day issues, but rather issues of systemic import. A potential hierarchy for the organizational flow might be: the Data Platform Council is at the top of the organizational chart for oversight of the implementation and management decisions being made day to day by the utilities and their vendor partners in delivering the Data Platform Hub to market. As an executive body, the council is instilled with the authority to represent the interests of all stakeholders and the energy economy in their perspective and their decision-making. Enabling this type of an org chart hierarchy formalizes the collaborative process, provides it with the necessary 'teeth' and dispels the fear that this will become a utility-only driven project.

In order to properly advise and vote on decisions of strategic and technical importance, the council will need to include both executive level and software experienced members. It has been suggested in draft testimony I have seen that the ability for the Data Platform Council to hire needed expertise is an option that will pay for itself as most of the members will likely receive no

compensation for their participation. However, it is my contention that the make-up of the council itself needs to address the need for technical experts who can objectively delineate and explain the issues under review. It is very likely that council members from the utilities will include IT candidates who are working on or familiar with the Data Platform Hub project. It is essential to counterbalance their perspectives with technical members who are non-utility stakeholders.

And that leads into the final rung of this simple pyramid: ***Specialized Input*** In order for the Data Platform Council to function property it requires adequate representation of personnel with energy area knowledge (CPA's, municipal & county government, Clean Energy groups, utilities) and of course technology professionals with specialties in data development/management and energy. This make-up serves the purpose of incenting and reinforcing transparency and independence.

It is preferable to include technical professionals with an interest in helping the project succeed to hiring someone to attend DPC meetings. But, if we are going to run a successful Agile software project, then the vendor partner we engage to implement the Data Platform Hub may become the logical participant/representative to report to and inform the DPC on project decisions. This would become part of the RFP to any potential vendor partner who will have to demonstrate their Agile experience. But the agile process features in-person reporting to and sprint-level communication with the '***primary stakeholder***' as part of the agile process. So, for the purposes of the software project, the Data Platform Council must be enacted in tandem with the agile project, in order to perform the 'primary stakeholder' role. The objective collaboration between the Agile Project Leader and the Data Platform Council as primary stakeholder, creates a level of direct communication that will be essential to a well-run software project.

Below you will find an inserted image that details a potential blueprint for the formulation of a Data Platform Council process that is designed to meet these objectives.

Mission Statement: The Platform Data Council (DPC) provides the vision, oversight and functional decision-making for the statewide, multi-use, online energy data platform by supporting the goals of the State of New Hampshire and its energy economy.

Governance categories:

1. Vision/Strategic Direction (Executive)
2. Operational & Performance-Based Oversight (Functional)

Function #1: Vision/Strategic Direction

- **Who:** 13 member Data Platform Council guides the strategic direction of the platform in line with its full potential for the State of New Hampshire
  - 6 energy stakeholder members: 3 of whom have technical or software experience sufficient that they can contribute to discussions/decisions around technology and implementation (potential pool of candidates: DE 19-197 working group; grid mod working group); energy stakeholders should include no less than 1 NH community power planner
  - 4 utility members (1 per utility, plus 1 technical lead)
  - 2 State of NH members (Dept of Energy, OCA, PUC, ST&E etc.)
  - 1 Ratepayer member
- **What: (**2 key activities)
  1. **Implement existing order/scope**
     The governance board will:
     - provide prioritization of outcomes at sufficient levels of granularity to create meaningful project sprints for an Agile software project
     - determine a baseline vision/scope for the initial project & timeframe
     - develop an RFP process to determine ideal value (build/buy)
     - define agile project work team and regular reporting schedule
     - act as 'primary stakeholder' for the platform project
     - provide PUC with initial project cost and annual budget estimate
     - define Data Platform Hub standards of performance and points of intervention for the PUC for non-performance
  2. **Prioritize/propose new orders to expand initial platform scope**
     - Board will prioritize and propose new functionality (consensus and non-consensus recommendations) based on the broader interests of all stakeholders for future feature needs
     - **Recommend new orders to expand Hub scope:** PUC Commission approval prior to initiating new projects beyond initial scope
     - Board to recommend new projects via subsequent orders
- **How: Decision-Making process:**
  3. **Implement existing order/scope**: Binding board vote - does not require PUC involvement. The Platform Governance Board requires an annual budget to support operational decision-making.

4. Conclusions – Collaboration is the point

Q. Do you have any closing remarks?

As an intervenor with the Local Government Coalition I am inclined to say a word about how our local governments will be buoyed by the advancement of a true Data Platform Hub. As

April Salas' testimony reflects, we very much take for granted that everyone will make-due in New Hampshire, without much attention to well-designed systems or useful resources. Our inability to perform seemingly simple tasks in order to improve our use of energy and make progress against climate plans that are required by the state are also an important impetus for the Data Platform Hub project. The economic benefits of taking this technological step are difficult to quantify; it is much like our inability to perceive how the telephone would facilitate streamlined communication, commerce and ultimately pave the way for other disruptive and transformative technologies, before we decided to make access to that enabling technology readily available.

It's about dipping a strategic toe into the world of information systems and creating an ability for New Hampshire to leverage a small investment for a huge energy and environmental return. Creating the ability to measure and manage our energy data is the future. It is through foresight and forbearance and sheer will (our only plentiful resources!) that we have pulled together a concept that puts New Hampshire in a position to define a better platform than some who came before us, California, Texas and New York most recently come to mind. But I'm sure there are many more examples of states who recognize that defining a proper window into their changing energy landscape is essential and rudimentary. It is not far-fetched or overly ambitious to recognize that the opportunities of our investments in our energy economy will only be realized when we have the ability to understand where we are, where we want to go, and how best to get there. That is what access to our energy data promises.

I thank you for your time and indulgence and realize that it is a tricky dance to try to navigate through a unique proceeding that is not designed to allow for some of the very critical pieces this data project requires.

It is further appropriate to say that my time intervening on this project has renewed my faith that there is such a thing as self-interested altruism. Unlike me, an Eversource customer, community representative and member of Science, Technology & Energy Committee who couldn't find a

way out of seeing this valuable project through, there are many who have devoted countless hours, with no renumeration, to see this innovative project through to its potential.

If it sometimes seems as if the intervenors and the utilities are talking about different projects, then I feel the case before you has been made. I have great respect for our utility providers and for their participation in this process. They have a great deal of value to add to the project and it is to their credit that they have made time for numerous adjunct meetings to ease communication between the parties and offer their input.

The concept of collaboration is my concluding point. We have seen that getting on the same page requires a process that supports vehicles for building understanding. It takes longer, and greater inclusion to make a collaborative process succeed. But it is also the way we secure the most powerful result. Asking the questions until we understand each other's perspectives gets us to the sweet spot of actual progress. What are your needs? What are your desires? What are your constraints? How do we get the greatest return on our investment? What are the opportunity costs if we delay making this happen now? What are the potentials we aim to reach? How do we create the balance needed for healthy collaboration?

You are charged with balancing our concerns for this collaboration, managing expectations and producing the best outcome for New Hampshire consumers and communities. I hope that my testimony provides food for thought and aids you in your charge.

Thank you for the opportunity to submit my testimony.