ADVANCED ENERGY ECONOMY

Transforming Policy. Expanding Markets.

July 23, 2021

Submitted Via E-Mail

New York State Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203

Dear IEDR Team at NYSERDA,

Advanced Energy Economy (AEE)[1] and Advanced Energy Management Alliance (AEMA)[2] commend the DPS and NYSERDA for their visionary thinking and ongoing efforts in unlocking data for decarbonization and transforming NY's energy use.

The Integrated Energy Data Resource (IEDR) has the potential to create unrealized value from relationships between data sets and to leverage new insights from data to achieve more impact at a lower cost from publicly-funded programs. It can also catalyze privately-funded market-based activity that can independently drive progress toward state clean energy and customer empowerment goals.

In evaluating use cases, we found it difficult to individually identify and connect the value of specific datasets to particular end uses. Most data sets have a variety of uses which can multiply when connected to other data sets. Because of this, we have attempted to provide use cases as broad categories with common data needs that have a large number of related end uses. By focusing on data sets with a high level of cross-cutting applicability, the stage 1 functionalities of the IEDR can enable a large and meaningful number of end uses without being overly prescriptive.

Our broad use cases are briefly described below:

Market Development – This use case provides data and outreach opportunities to qualified users of the IEDR to help identify potential customers that could benefit the most from their services. The

[1] AEE is a national business association representing leading companies in the advanced energy industry. AEE supports a broad portfolio of technologies, products, and services that enhance U.S. competitiveness and economic growth through an efficient, high-performing energy system that is clean, secure, and affordable.

[2] Advanced Energy Management Alliance ("AEMA") is a trade association under Section 501(c)(6) of the federal tax code whose members include national distributed energy resource companies and advanced energy management service and technology providers, including demand response ("DR") providers, as well as some of the nation's largest demand response and distributed energy resources. AEMA members support the beneficial incorporation of distributed energy resources ("DERs") into wholesale markets for purposes of achieving electricity cost savings for consumers, contributing to system reliability, and ensuring balanced price formation. This filing represents the collective consensus of AEMA as an organization, although it does not necessarily represent the individual positions of the full diversity of AEMA member companies.

qualified companies would be allowed to search for load profiles of anonymous individual customers that meet certain criteria such as building types, geographical areas, rate classes, and service characteristics. If a company identifies a customer usage profile that would likely be improved by the company's service, the company can request contact with the customer through the IEDR, and the customer could respond at their discretion. For example, the IEDR could help demand response (DR) and energy storage companies identify customers with peaky usage that could benefit from demand shaving technologies, or assist energy efficiency companies with identifying customers with inefficient HVAC systems relative to their building size. The IEDR could notify customers of the potential to save on their energy bills and provide them with contact information of qualified service providers. The Market Development use case can also create averaged load profiles for an entire subset of customers (based on building type or service class, for example). This average load profile can help companies better tune their products to meet the needs of specific types of customers.

Distribution Services – The IEDR distributes the data necessary for companies to provide services associated with distribution-level programs and tariffs to existing customers and to help companies establish service for prospective customers that have already been identified. This use case provides customer energy use data necessary for load and bill analysis and provides system data relevant to utility programs (such as non-wires alternatives [NWAs] and demand response programs targeting locational value). This use case enables participation in utility programs or other types of utility/customer cost reduction opportunities.

Wholesale Services – The IEDR distributes data necessary to participate in NYISO programs and other wholesale transactions. This usage data may be similar to the data required for the Distribution Services use case, but with higher detail and lower latency. For all programs, the NYISO requires hourly billing grade data to be submitted within 12 hours. In most cases, non-utility metering must be installed to provide data with this low level of latency. However, if the IEDR can provide this data and eliminate the need for additional metering and communications equipment capable of providing revenue-grade meter data as well as provide telemetry for aggregations, the cost to provide these services can be reduced substantially for DER aggregators to comply with NYISO operating and settlement procedures.

We have applied a few assumptions to the use cases below.

- Though some use cases may require the same data at different level of detail, we have only listed the most detailed level of data. While users can take more detailed data and develop less detailed averages, greater levels of detail cannot always be accurately estimated when less granularity is provided.
- We recognize that not all data sets and functionalities listed in the use cases will be practical to implement in phase 1. However, phase 1 should be developed with an understanding of additional capabilities that can be added later as they become available. Missing data or capabilities should not necessarily prevent a use case from being prioritized, as partial capabilities can still be highly valuable.

We also recommend prioritizing the Market Development use case as it will provide new functionalities that are not possible today. Customer acquisition is currently a time-consuming and expensive process, and if it can be made more efficient, the soft costs of energy-related products and services can be substantially reduced. The Market Development use case may also be able to reach customers that might not be accessible through existing market channels. The Distribution Services and Wholesale Services use cases are also very important, but most of the functionalities described therein can currently be replicated with additional data acquisition and integration costs and through installing duplicative metering and IT systems. Addressing these use cases will provide significant benefits in reducing the soft costs of conducting business in New York, making energy related services more affordable to a greater number of New Yorkers, and increasing the roll of private investment in helping New York meet its ambitious environmental and clean energy goals.

We have provided the use cases as appendices to this letter as some answers were longer than the space provided in the original form. We appreciate the opportunity to provide this input to the ongoing development if the IEDR and look forward to working with DPS and NYSERDA as this process continues.

Sincerely,

Daniel Waggoner
Director, Advanced Energy Economy

IEDR Market Development Use Case

This use case provides data and outreach opportunities to qualified users to help identify potential customers that could benefit the most from their services. The qualified companies would be allowed to search for load profiles of anonymous individual customers that meet certain criteria such as building types, geographical areas, rate classes, and service characteristics. If a company identifies a customer usage profile that would likely be improved by the company's service, the company can request contact with the customer through the IEDR, and the customer could respond at their discretion. For example, the IEDR could help DR and energy storage companies identify customers with peaky usage that could benefit from demand shaving technologies or assist energy efficiency companies with identifying customers with inefficient HVAC systems relative to their building size. The IEDR could notify customers of the potential to save on their energy bills and provide them with contact information of qualified service providers. This use case can also create averaged load profiles for an entire subset of customers (based on building type or service class, for example). This average load profile can help companies better tune their products to meet the needs of specific types of customers.

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Peter Dotson-Westphalen, CPower (AEMA NY/NE Committee Chair),
Peter.d.westphalen@cpowerenergymanagement.com

2) Use Case Category

Select and enter one of the use case categories listed at the end of this form.

- DER Development and Use
- Transportation Electrification
- Building Electrification
- Energy Efficiency (EE)

3) Use Case Sub-Category

Select and enter one of the use case sub-categories listed at the end of this form.

- identifying, evaluating, and/or selecting potential DER locations;
- identifying, evaluating, and/or engaging potential DER customers;
- preparing and/or optimizing DER development plans;
- preparing and/or optimizing DER operating plans;
- designing, implementing, and/or operating DER aggregations;

4) What Question(s) Does the Stakeholder Seek to Answer with This Use Case?

Enter the questions that this IEDR use case could answer with information that would be useful to the Stakeholder.

- Which utility customers could benefit from additional products and services?
- Which utility customers have load profiles that match specific parameters?
- What is the average usage profile for customers…
    - In a rate class
    - In a geographical area
    - In a type of building
    - With a particular type of DER
    - With an EV
    - Business type
    - A combination of the above
- Which utility customers have abnormal usage for their building type?
- Which customers are likely to already have DER or EE measures?
- Which customers are likely open to adopting DER or EE?
- Which utility customers located in a capacity-constrained area could provide load reductions to the system?
- What utility customers are actively seeking solutions and have opted to make their load profiles available to qualified service providers?
- Which customers are located in areas of lower than average reliability?

5) What Information Should the Use Case Produce for the Stakeholder?

Describe the type(s) of useful information that the use case should produce.

- Anonymous customer load profiles that match specific parameters (load factor, building, consumption, peak, general location)
- Average usage/load profiles for specific types of customers or service parameters
- Load profiles with contact information for customers who have opted-in to sharing their usage data and solicit offers from qualified service providers
- Locational SAIDI and SAIFI data

(a) How Will the Stakeholder Use the Information Produced by This Use Case?

Explain how the Stakeholder will use each type of information produced.

- If a qualified service provider identifies an anonymous load profile that could be improved by a particular technology or service, the service provider can request that the IEDR contact the

customer or relay information to a customer. The identity of the customer will not be revealed until the customer responds affirmatively to the IEDR or to the service provider.
- Average load profiles for specific types of customers can help service providers develop solutions for customers in different situations and with different needs.
- Identifying customers in lower reliability areas (or relaying offers from qualified service providers to them) can help identify customers in the greatest need of backup or other onsite energy sources.

(b) What are the Minimum Necessary Attributes for Each Type of Information Produced?
For each type of information produced, specify the minimum necessary information attributes (i.e. precision, accuracy, granularity, etc.).

- Average or Anonymous customer hourly load profiles for a weekday and weekend in each month.
- Average or Anonymous customer hourly load profiles during the day when the customer's peak demand occurs
- Average or Anonymous customer hourly load profile during the day when the system peak occurs

6) How Should the IEDR User Interface Present the Information Produced by the Use Case?
Identify one or more useful ways to present the output information to the user (i.e. list, table, graph, bar chart, pie chart, map, ... , etc.). For example, a bar chart that shows the number of electric customers on each of several rates within a zip code.

CSV, XML, JSON and visual graph of load profiles, map of reliability data.

7) What Type(s) of Data Does the IEDR Need to Analyze for This Use Case?
Identify the one or more types of data - from utilities and/or other sources - that the IEDR will need to analyze to produce useful information. See Appendix B of the Staff IEDR Whitepaper for a preliminary list of data types that could be collected and analyzed by the IEDR.

- Hourly customer usage data
- Identification of customers by service class, location, building type, DER, and/or EV adoption
- Reliability events with granular location data.

(a) What are the Minimum Necessary Data Attributes for Each Type of Data Collected and Analyzed?
For each type of data analyzed, specify the minimum necessary data attributes (i.e. precision, accuracy, granularity, age, ... , etc.).

- Hourly load profiles for 24 hour periods identified in 5 (b)
- Number of customers contained in an average if an averaged load profile is provided for a subset of customers

8) What Data Relationships Does the IEDR Need to Analyze for This Use Case?

Identify the one or more data relationships, if any, that must exist in the IEDR to enable the analyses needed for this use case. For example, the user may want to identify EV registrations and electric utility customer accounts that share the same street address.

- Hourly customer usage associated with customers with specific attributes, such as service class, location, building type, DER, EV adoption
- Location of customer connection to system and areas of locational system need

9) What Data Analysis Function(s) Does the IEDR Need for This Use Case?

Identify the one or more analytic functions that the IEDR must apply to each type of data used in this use case. For example, the use case may require the determination of averages, maximums, minimums, durations, and values greater/lesser/equal/between variables set by the user.

- Ability to search usage data for patterns, such as peaky usage and low load factor
- Ability to create averages of usage patterns for all customers that match certain search criteria
- Ability to identify abnormal usage patterns for customer types or building types

(a) What are the Minimum Necessary User Input Variables Needed to Enable a Useful Analysis?

For each analytic function, specify the one or more input variables that the user must provide (if any) to enable the desired analysis. For each type of input variable needed, specify the type(s) of condition to be applied in the analysis (i.e., greater than, equal to, less than, between, not between, etc.).

- Types of customer load profiles to be searched (service class, location, building type, type of DER employed, with an EV, business type)
- Matching criteria for load profiles (load factor greater than or less than x, total consumption greater or less than x, peak demand greater or less than x, coincident peak demand greater or less than x, ratio of off-peak consumption to peak consumption greater or less than x)

10) How Often Does the Stakeholder Expect to Employ This Use Case?

For example: sub-daily; daily; weekly; monthly; quarterly; semi-annually; annually ...

Monthly

11) How Does This Use Case Benefit the Stakeholder?

Describe how this use case would benefit its Stakeholder(s) and explain how the use case would enable those benefits. Benefits described and explained could include reduced cost, reduced time, greater revenue, reduced risk, increased understanding, ... , etc.

Customer acquisition costs are a high cost of doing business for service providers. The IEDR could substantially lower those acquisition costs by identifying potential customers to qualified service providers while preserving a customer's anonymity. As no service provider would have exclusive use of

the IEDR, those savings would be passed on to customers as service providers work to maintain competitive pricing.

12) Why Should This Use Case Be Prioritized From the Perspective of i) the Industry and ii) the Citizens of New York State?

Lowering the cost of customer acquisition for qualified service providers will lower the prices that companies can offer to customers. This improves customer benefits and allows more customers to participate, which in turn drives scale that can lead to further cost reductions. Good consumer protection and transparent marketing practices can be required before access to the IEDR is provided to service providers. Access to the IEDR can function as an incentive for good business practices.

Distribution Services Use Case

The IEDR distributes the data necessary for companies to provide services associated with distribution level programs and tariffs to existing customers and to help companies establish service for prospective customers that have already been identified. This use case provides customer energy use data necessary for load and bill analysis and also provides system data relevant to utility programs (such as NWAs and DR programs targeting locational value). This use case enables participation in utility programs or other types of utility/customer cost reduction opportunities.

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2) Use Case Category

Select and enter one of the use case categories listed at the end of this form.

- DER Development and Use
- Transportation Electrification
- Building Electrification
- Energy Efficiency (EE)

3) Use Case Sub-Category

Select and enter one of the use case sub-categories listed at the end of this form.

- preparing and/or optimizing DER development plans;
- preparing and/or optimizing DER operating plans;
- designing, implementing, and/or operating DER aggregations;
- monitoring and evaluating the deployment and use of DERs;

4) What Question(s) Does the Stakeholder Seek to Answer with This Use Case?

Enter the questions that this IEDR use case could answer with information that would be useful to the Stakeholder.

- What is the usage/generation profile of a specific customer?
- What are the customer's rates, charges, and bills?
- What is the performance of a particular measure?
- What services/technologies would provide the most benefit to a prospective customer?

- What are the utility service characteristics at the location?
- Can a customer help fulfill a utility need?
- Does a customer need additional reliability/resiliency at a location?
- Are there underperforming appliances at a particular location?
- Is the customer's location eligible for specific programs or higher incentive levels?
- Is a customer's usage abnormal given the specifications for the premises?
- How is the customer's adoption of technology or participation in a program performing?
- Following implementation/participation beginning, are there additional measures/services that can be offered to the customer to further enhance benefits?

5) What Information Should the Use Case Produce for the Stakeholder?

Describe the type(s) of useful information that the use case should produce.

- Interval (hourly, 15-min, 5-min, depending on utility's meter data collection capability and practice or the metering equipment's capability) kWh usage, with raw data published for each interval as soon as the utility can make it available, and billing-quality data (that has undergone the utility's Validating, Editing, and Estimation [VEE} process) available within 24 hours, including ability to toggle between levels of granularity for each account's data (i.e. roll up 5- or 15-min data to hourly). Sub-hourly data maintained for 1 year, hourly data maintained for 2 years.
- Customer bills with 2 years of history
- Applicable customer details and meter details for both for electric, gas and steam as specified in Appendix B of DPS Staff's Report on the IEDR
- Installed DER Details as specified in Appendix B of DPS Staff's Report on the IEDR
- Historical peak demand
- Monthly peak demand
- ICAP Tag
- Usage during specific time periods specified in utility rates (TOU periods, peak demand periods, locational peak demand periods, DR calls)
- Characteristics of customer's circuit/feeder (voltage, phase, capacity, hosting capacity)
- Time of peak demand on circuit for prior years
- Localized SAIDI and SAIFI data for a customer's circuit
- Type and size of dwelling/ building
- Applicable interconnection agreement information from host utility, including any specific limits to operation
- Installed Electric Vehicle Charger Details as specified in Appendix B of DPS Staff's Report on the IEDR

(a) How Will the Stakeholder Use the Information Produced by This Use Case?

Explain how the Stakeholder will use each type of information produced.

Measurement of customer demand/usage reductions and/or DER generation to determine:

- Performance of measures
- Fulfillment of contractual obligations
- Calculating compensation to/from customer
- Savings estimates/bill impacts
- Opportunities for operational improvements and/or further optimization of measures
- Verification of service provider's metering and data
- Participation in utility programs
- Need for additional reliability

(b) What are the Minimum Necessary Attributes for Each Type of Information Produced?

For each type of information produced, specify the minimum necessary information attributes (i.e. precision, accuracy, granularity, etc.).

- Interval (hourly, 15-min, 5-min, depending on utility capability and practice and metering equipment capability) kWh usage, with raw data published for each interval as soon as the utility can make it available, and billing quality data (that has undergone the VEE process) within 24 hours, including ability to toggle between levels of granularity for each account's data (i.e. roll up 5- or 15-min data to hourly). Sub-hourly data maintained for 1 year, hourly data maintained for 2 years.
- Customer bills with 2 years of history
- Applicable customer details and meter details for both for electric, gas and steam as specified in Appendix B of DPS Staff's Report on the IEDR
- Historical peak demand (max historical demand relevant for contract demand charges)
- Monthly peak demand
- ICAP Tag
- Usage during specific time periods specified in utility rates (TOU periods, peak demand periods, locational peak demand periods, DR calls)
- Characteristics of customer's circuit/feeder (voltage, phase, capacity, hosting capacity, historical/forecasted load data)
- Time of peak demand on circuit for prior years
- Localized SAIDI and SAIFI data for a customer's circuit
- Type and size of dwelling/ building
- Applicable DER interconnection agreement information from host utility, including any specific limits to operation
- Installed Electric Vehicle Charger Details as specified in Appendix B of DPS Staff's Report on the IEDR

6) How Should the IEDR User Interface Present the Information Produced by the Use Case?

Identify one or more useful ways to present the output information to the user (i.e. list, table, graph, bar chart, pie chart, map, ... , etc.). For example, a bar chart that shows the number of electric customers on each of several rates within a zip code.

Raw data in XML, CSV, JSON via API
Usage data in compliance with Green Button Connect
Customer utility electric and gas account, meter equipment information noted in responses to 5/5(b) should be presented in a table format, capable of being exported manually via CSV or through automated export via XML/API

7) What Type(s) of Data Does the IEDR Need to Analyze for This Use Case?

Identify the one or more types of data - from utilities and/or other sources - that the IEDR will need to analyze to produce useful information. See Appendix B of the Staff IEDR Whitepaper for a preliminary list of data types that could be collected and analyzed by the IEDR.

- Customer usage data
- Utility billing data
- Utility rates, TOU, peak periods, DR calls
- Customer location, connection point
- Utility circuit locations
- Reliability event information for specific circuits
- Existing building data

(a) What are the Minimum Necessary Data Attributes for Each Type of Data Collected and Analyzed?

For each type of data analyzed, specify the minimum necessary data attributes (i.e. precision, accuracy, granularity, age, ... , etc.).

See answers to 5(b)

8) What Data Relationships Does the IEDR Need to Analyze for This Use Case?

Identify the one or more data relationships, if any, that must exist in the IEDR to enable the analyses needed for this use case. For example, the user may want to identify EV registrations and electric utility customer accounts that share the same street address.

- Usage/generation during particular rate period (TOU, peak, DR calls, etc.)
- Matching customer location, connection with utility circuit
- Identifying locational rates and programs available at customer's location (e.g., LSRV area, NWA)
- Calculating circuit level SAIDI and SAIFI with granular reliability event information
- Matching customer address with information on dwelling/premises (such as tax assessments)

9) What Data Analysis Function(s) Does the IEDR Need for This Use Case?

Identify the one or more analytic functions that the IEDR must apply to each type of data used in this use case. For example, the use case may require the determination of averages, maximums, minimums, durations, and values greater/lesser/equal/between variables set by the user.

The primary focus of this use case is making all data for a specific customer available in one place rather than providing analysis of data.

(a) What are the Minimum Necessary User Input Variables Needed to Enable a Useful Analysis?

For each analytic function, specify the one or more input variables that the user must provide (if any) to enable the desired analysis. For each type of input variable needed, specify the type(s) of condition to be applied in the analysis (i.e., greater than, equal to, less than, between, not between, etc.).

Customer lookup by account number, name, address. The IEDR would only display detailed data for customers that have already provided authorization to the service provider.

10) How Often Does the Stakeholder Expect to Employ This Use Case?

For example: sub-daily; daily; weekly; monthly; quarterly; semi-annually; annually ...

Usage data may be accessed sub-daily.
All other data may be accessed quarterly, less frequently if static, or when an update occurs.

11) How Does This Use Case Benefit the Stakeholder?

Describe how this use case would benefit its Stakeholder(s) and explain how the use case would enable those benefits. Benefits described and explained could include reduced cost, reduced time, greater revenue, reduced risk, increased understanding, ... , etc.

This use case allows a company to offer DER and/or services to customers and fulfill basic business functions with reduced cost. As the IEDR will be available to other companies as well, it is unlikely to provide a competitive edge to any particular company and instead will lower the costs of offering energy related services in general to customers in New York.

12) Why Should This Use Case Be Prioritized From the Perspective of i) the Industry and ii) the Citizens of New York State?

While most of these data sets can be collected separately from different sources, co-locating the data necessary to offer all potential services to a particular customer will reduce the cost of serving customers and improve the quality of services offered to customers. This can increase adoption of carbon reducing and money saving services, better leverage DER for system benefit, and help New York reach its decarbonization goals at reduced cost.

IEDR Wholesale Services

The IEDR distributes data necessary to participate in NYISO programs and other wholesale transactions. This usage data may be similar to the data required for the Distribution Services use case, but with higher detail and lower latency. For all programs, the NYISO requires hourly billing grade data to be submitted within 12 hours. In most cases, non-utility metering must be installed to provide data with this low level of latency. However, if the IEDR can provide this data and eliminate the need for additional metering and communications equipment capable of providing revenue-grade meter data as well as provide telemetry for aggregations, the cost to provide these services can be reduced substantially for DER aggregators to comply with NYISO operating and settlement procedures.

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Peter.d.westphalen@cpowerenergymanagement.com

2) Use Case Category

Select and enter one of the use case categories listed at the end of this form.

- DER Development and Use
- Electric Utility Function

3) Use Case Sub-Category

Select and enter one of the use case sub-categories listed at the end of this form.

- Preparing and/or optimizing DER operating plans
- Designing, implementing, and/or operating DER aggregations
- Monitoring and evaluating the deployment and use of DERs
- system operations;
- market enablement;
- market operations;
- metering

4) What Question(s) Does the Stakeholder Seek to Answer with This Use Case?

Enter the questions that this IEDR use case could answer with information that would be useful to the Stakeholder.

- What is the customer information required to complete a facility's registration with NYISO to enable wholesale market participation?
- What is the prior day hourly settlement-grade interval usage of a particular customer, which the service provider must report in aggregate to NYISO for participation in wholesale programs?
- What is the performance of the service provider's aggregation that participates in NYISO markets?
- Can the IEDR serve as real-time clearinghouse for operational data (6-sec telemetry for aggregations participating in NYISO markets), supplied by a third party's metering equipment and software, and provide a single point from which this data may be accessed by NYISO and/or utilities?

5) What Information Should the Use Case Produce for the Stakeholder?

Describe the type(s) of useful information that the use case should produce.

Substation Details (particularly NYISO Load Zone, Sub-Zone, Transmission Owner, and Transmission Node), Electric Service Point Details (including voltage levels), Electric Customer Details (including rate type), Electric Meter Details (including information not specified in Appendix B of DPS Staff's Report required for NYISO Meter Service Entity Meter Inventory process, including calibration testing information and dates of last test, PT/CT equipment installed), and Installed DER Details as specified in Appendix B of DPS Staff's Report

Billing quality hourly interval kWh usage data (in Hour Beginning format) with raw data published for each interval as soon as the utility can make it available, and billing-quality data (that has undergone the utility's VEE process) available less than 12 hours after the end of the prior day, with historical data provided for 1 year. Interval data should be in table form, with an ability to export/download to csv. Billing data should be in both PDF and exportable table formats.

*NYISO's DER Participation Model (DER PM), Behind-the-Meter Net Generator Participation Model (BTM-NG), and Energy Storage Resource Participation Model (ESR PM) require near real time 6-second telemetry data (not settlement quality data provided for next day reporting), but it is not expected that the IEDR would be able to provide this level of detail and low latency, at least in Phase 1, but could be considered for future development. However, where utility metering capable of reading instantaneous demand and that information can be made available to service providers through the IEDR, that should be considered.

Digitized Bulk Power Market Details as specified in Appendix B of DPS Staff's Report

(a) How Will the Stakeholder Use the Information Produced by This Use Case?

Explain how the Stakeholder will use each type of information produced.

The service provider will use this data to facilitate registration with the NYISO for participating in existing and planned wholesale market participation models, as well as updating this information (ex.

Transmission Node applicable to a customer's location) on an as needed basis (NYISO intends to update this information annually)

The service provider will use the billing quality data to comply with NYISO settlement requirements and avoid the need to install duplicative private metering to supply the data.

*If possible, future enablement of data provision through the IEDR to support transfer of telemetry data (not settlement data) necessary to participate in NYISO's market and provide a single point of access for both NYISO and utilities to obtain real-time operational information for aggregations,

The service provider will obtain interval data for each account registered with NYISO as part of an aggregation for submission by the service provider to the NYISO to comply with settlement data submission requirements. The NYISO will use the data to operate its DER programs and markets. The IEDR can make the data available to other relevant stakeholders, such as TOs and distribution utilities as necessary.

Distribution Utility review of DERs seeking to participate in NYISO's DER participation model as part of an aggregation will take place at the time of initial registration by an aggregator, and again as needed when there are changes to an aggregation (potentially monthly). This process will utilize data expected to be available in Phase 1, and the IEDR could function as a single point through which utilities can communicate any potential reliability/safety risks to the distribution system by an aggregation participating in NYISO's market, and also serve as a method by which intra-day notices are disseminated to aggregators of distribution system issues impacting a DER aggregation's wholesale market schedule and delivery. As much of this process is not yet defined, this may be considered for Phase 2.

(b) What are the Minimum Necessary Attributes for Each Type of Information Produced?

For each type of information produced, specify the minimum necessary information attributes (i.e. precision, accuracy, granularity, etc.).

See answer to question 5

6) How Should the IEDR User Interface Present the Information Produced by the Use Case?

Identify one or more useful ways to present the output information to the user (i.e. list, table, graph, bar chart, pie chart, map, ... , etc.). For example, a bar chart that shows the number of electric customers on each of several rates within a zip code.

Raw data in XML, CSV, JSON via API
Usage data in compliance with Green Button Connect
Ability to view customer accounts mapped by NYISO transmission node
Access to customer bills in PDF form as well as in table format (with ability to export for multiple customer accounts)

7) What Type(s) of Data Does the IEDR Need to Analyze for This Use Case?

Identify the one or more types of data - from utilities and/or other sources - that the IEDR will need to analyze to produce useful information. See Appendix B of the Staff IEDR Whitepaper for a preliminary list of data types that could be collected and analyzed by the IEDR.

It would be beneficial to identify any tariffs or services provided at the retail level that may conflict with NYISO wholesale markets and would preclude participation in an aggregation that provides specific wholesale market services. This could potentially be addressed as part of Phase 2 after stakeholders define potential conflicts.

(a) What are the Minimum Necessary Data Attributes for Each Type of Data Collected and Analyzed?

For each type of data analyzed, specify the minimum necessary data attributes (i.e. precision, accuracy, granularity, age, ... , etc.).

Accurate billing quality hourly interval data (kWh usage) provided less than 12 hours after the end of the prior day, with historical data provided for 1 year

8) What Data Relationships Does the IEDR Need to Analyze for This Use Case?

Identify the one or more data relationships, if any, that must exist in the IEDR to enable the analyses needed for this use case. For example, the user may want to identify EV registrations and electric utility customer accounts that share the same street address.

- Matching customers with customer usage data
- Matching aggregations with individual participant data
- Matching customers with Transmission Nodes

9) What Data Analysis Function(s) Does the IEDR Need for This Use Case?

Identify the one or more analytic functions that the IEDR must apply to each type of data used in this use case. For example, the use case may require the determination of averages, maximums, minimums, durations, and values greater/lesser/equal/between variables set by the user.

No analysis is required

(a) What are the Minimum Necessary User Input Variables Needed to Enable a Useful Analysis?

For each analytic function, specify the one or more input variables that the user must provide (if any) to enable the desired analysis. For each type of input variable needed, specify the type(s) of condition to be applied in the analysis (i.e., greater than, equal to, less than, between, not between, etc.).

Search for customer information by name, address, account number, or other unique identifier. Customer usage data would only be returned in the search if the service provider is authorized to receive it.

Search for aggregations, participants within aggregations, and interval data for an entire aggregation and individual participants. This would require information from NYISO (aggregation ID/PTID) to be visible/searchable in the IEDR.

10) How Often Does the Stakeholder Expect to Employ This Use Case?

For example: sub-daily; daily; weekly; monthly; quarterly; semi-annually; annually ...

Daily, before noon every day to collect interval data for the prior day.

11) How Does This Use Case Benefit the Stakeholder?

Describe how this use case would benefit its Stakeholder(s) and explain how the use case would enable those benefits. Benefits described and explained could include reduced cost, reduced time, greater revenue, reduced risk, increased understanding, ... , etc.

Utility AMI metering is technically capable of replacing the need for duplicative metering installed by service providers. By reducing the latency of billing quality interval data, the IEDR can reduce the cost of wholesale market participation and grow the number of participants in aggregations providing services to wholesale markets.

The IEDR can also serve as a clearinghouse for aggregation data for authorized parties, such as TOs and distribution utilities. The network operators can access aggregation data to determine the impact of aggregation on their networks, assist with planning, or seek opportunities for additional resources that can support their networks.

If telemetry data could flow through the IEDR from aggregators to NYISO/utilities (and NYISO telemetered basepoint signals for dispatch instruction) this could eliminate the need for an aggregator to build systems to send/receive telemetry data with NYISO (via direct ICCP or SD/WAN with NYISO and/or each utility in which an aggregation is formed and represented by that aggregator), further reducing cost barriers for aggregators to provide services across the state.

12) Why Should This Use Case Be Prioritized From the Perspective of i) the Industry and ii) the Citizens of New York State?

Cost reductions associated with wholesale participation are likely to flow to customers rather than providers since multiple service providers will have access to the services of the IEDR and none will wield it as a competitive advantage. TOs and distribution utilities will likely benefit from access to aggregation level data that they might not otherwise have access to, and may be able to work with aggregators to better support their networks. And businesses and customers generally are likely to benefit from easier participation in wholesale markets and programs, increasing value from DERs and lowering customer costs.