

Form EIA-860 Annual Electric Generator Report and Form EIA-923 Power Plant Operations Report

(This protocol is a guide – the questions presented here won't necessarily be asked exactly as worded in the protocol or in this order. It is important to note that not all questions will be asked in every interview.)

Research Goals:

- To assess Form EIA-860 and Form-923 respondent's abilities to report information related to battery storage.
- To better understand the information respondents report related to the capacity of their storage systems.
- To estimate any changes in reporting burden associated with collecting this information and obtain feedback on appropriateness of current reporting burden.

Purpose of Interview:

Let me start by telling you a little about what we will be doing today:

- Introduce self and observers
- The questions are about potential changes to Form EIA-860 Annual Electric Generator Report and Form EIA-923 Power Plant Operations Report.
- We are attempting to assess the ability to report information on *microgrids*, familiarity with some terminology, and collect some feedback on how much time it takes you to fill out EIA survey forms.
- There are no right or wrong answers, and if something doesn't make sense to you or you have any questions, please ask.
- Before we start, do you have any questions about these EIA surveys?

Part A - Introduction [If participant completes Form EIA-923 skip to page 4 after Introduction section]

- Can you start by sharing with us a little more about yourself and your company?
- Do you currently fill out Form EIA-860 and/or Form EIA-923?
- How long have you been completing these forms?
- Do you complete any other EIA surveys for your company?
- Are you familiar with the instructions for Form EIA-860 and/or Form EIA-923?
 - How often do you refer to the instructions?
 - How long do you spend reading the instructions?

Part B - EIA-860

Now let's talk about how much time and effort it takes you to currently complete these forms.

- How much time does it take you to complete Form EIA-860?
- Can you briefly describe your process for gathering the data needed to fill out the current form(s)?

- Do you track the information you report on Form EIA-860 over the normal course of business or is this information tracked only for responding to this survey?
- Does filling out this form require data or input from anyone else?
- How much time does it take you to gather the information for each report?
- Once you have gathered the information needed, how long does it take you to fill out all of the schedules for Form EIA-860 and submit your data to EIA?
- In the past, is this the usual time that it takes your company to report this information?
- Do you have any problems or think there are any confusing questions on Form EIA-860?

Part C – EIA-860 Respondents Existing questions,

EIA wants to better understand the nameplate capacity information and nameplate reactive power rating information reported by respondents on Form EIA-860. The follow questions relate to the reporting of this information.

- EIA currently asks for the nameplate capacity of your battery system. How do you determine nameplate capacity for your battery system?
 - o Are you reporting the generator’s full technical range or its operational range based on the battery manufacturer’s warranty?
 - o When you report capacity, does the reported figure reflect the originally installed nameplate capacity, the current capacity, or the target/planned nameplate capacity?
 - o Do you update the capacity value you report each year?
 - o Do you have an overbuild strategy to deal with long-term capacity degradations?
 - (If yes) Does the capacity figure you report include battery overbuild?
- Do you have a battery maintenance plan to deal with long-term capacity degradations?
 - o (If yes) Does your company keep information on the capacity that was under maintenance or replaced last year?
 - (If yes) Can you report that information in MW/MWh?
 - (If yes) Can you report the percentage of the replaced capacity?

Schedule 3, Part B, Question 38

EIA has observed some data reporting issues with the questions asked on Form EIA-860 related to nameplate reactive power rating and the maximum charge rate for the energy storage devices. EIA seeks to understand how respondents determine this information.

- Are you familiar the term “nameplate reactive power rating”? What does that term mean to you?
- Do you report the nameplate reactive power rating for your facility’s energy storage device? ((MVAR) mega volt-amps-reactive units)
 - (If yes) Are you reporting a positive value for this question or are you reporting 0 or null?
 - o (If + value)
 - o (If no, zero, or null) Can you explain why you report this answer for this question? Which unit of measurement do you use for reporting reactive power? Watts or units of "volt-amperes reactive"?
 - o How do you calculate the reported value for reactive power?
 - o (If needed) Is the reactive power rating listed on the battery or on the invertor?

INTERVIEWER NOTE: A **power inverter**, or **inverter**, is an electronic device or circuitry that changes direct current (DC) to alternating current (AC)

- If EIA asked for inverter reactive power rating instead of nameplate reactive power rating, would that be easier to answer? Why?

Part D - EIA-860 Respondents Storage Systems/batteries

Schedule 3, Part B, Question 35 & 36

We have a few questions on storage systems/batteries.

- Are you familiar with the term “maximum/minimum charge limit?”
 - (If yes) What does the term “maximum/minimum charge limit” mean to you?
 - Is the maximum/minimum charge limit of your storage device restricted by the device’s warranty or by other operational constraints?
 - Is this term the same or different from maximum/minimum charge rate?
 - Which term better describes the total quantity of energy that storage devices can receive/inject from/to the grid charge limit or charge rate?
- Are your max and min charge rates determined by the battery warranty?
 - (If needed) Does the battery warranty limit the voltage range of the system?
 - (If yes) What is that voltage range?
- Do your storage systems support a specific generator(s)?
 - (If yes) Do you have information on the generator’s ID and/or facility code that your battery supports?
 - (If yes) If EIA asked you to report the generator’s ID or the facility codes of the generators supported by your storage system, how much time would it take for you to gather and report that information on a monthly basis?
 - (If needed) If the storage system is remotely located, would this question be difficult to answer?
 - (If yes) Would the specific generator(s) that your battery supports ever change?
 - (If yes) Are your battery systems and the generator(s) they support: **(Participants should only chose one)**
 - AC-coupled? *(means the energy storage device and the supported generator are not installed on the same side of an inverter)*
 - DC-coupled? *(means the energy storage device and the supported generator are on the same side of an inverter and the battery can still charge from the grid)*
 - DC tightly coupled? *(means the energy storage device and the supported generator are on the same side of an inverter and the battery cannot charge from the grid)*
 - Or independent? *(not coupled with another generators)*
 - (If yes or no) Is your storage system co-located with a substation or other non-generating asset?
- If EIA asked you to report additional information on your battery storage system on Form EIA-860, how much additional time would it take you annually to complete these surveys?
 - (If needed) If you reported this same information monthly on Form EIA-923, would it take the same time each month?

- Would reporting this additional information require your company to update any of its systems?
 - (If yes) How much time do you estimate it would take your company to update those systems?
 - (If needed) Is this a one-time activity?

Part E - EIA-860 Microgrid Questions

- Are you familiar with the term “microgrid”?
 - (If yes) What does that term “microgrid” mean to you in the context of power plant operations?
 - Is your generator or facility/power-plant part of a microgrid?
 - (If yes) Is your generator or facility/power-plant’s microgrid participation at the generator level or plant level?
 - (If needed) Does your facility/company/power-plant operate the microgrid system or is it operated by another entity (e.g. the distribution utility or other party)?
- If EIA asked you to report additional information related to power generating capacity of the microgrids on Form EIA-860, how much additional time would it take to report that additional information?
- Would reporting this additional information on the generating capacity of your microgrid system require your company to modify any of its data systems?
 - (If yes) How much time do you estimate it would take your company to update those systems?
 - (If needed) Is this a one-time activity?

EIA-923 RESPONDENTS ONLY

Now let’s talk about how much time and effort it takes you to currently complete the EIA-923 form.

- How much time does it take you to complete Form EIA-923?
- Can you briefly describe your process for gathering the data needed to fill out the current form(s)?
- Do you track the information you report on Form EIA-923 over the normal course of business or is this information tracked only for responding to this survey?
- Does filling out this form require data or input from anyone else?
- How much time does it take you to gather the information for each report?
 - Do you need input from others in your organization?
- Once you have gathered the information needed, how long does it take you to fill out all of the schedules for Form EIA-923 and submit your data to EIA?
- In the past, is this the usual time that it takes your company to report this information?

Do you have any problems or think there are any confusing questions on Form EIA-923?

Part F - EIA-923 Respondents Microgrid Questions

- Are you familiar with the term “microgrid”?
 - (If yes) What does that term “microgrid” mean to you in the context of power plant operations?

- Is your generator or facility/plant part of a microgrid system?
 - (If yes) Is your microgrid powered by distributed generators, batteries, or renewable resources? (If yes) Which one?
 - Do you track the amount of power the microgrid provides?
 - Do you track the number of customers that use the microgrid?
 - How long can your microgrid provide power before needing to be refueled?
- (If needed) Do you track other kinds of information on your generator's or facility's microgrid activities?
- (If needed) Do you track how much energy is generated when your facility is connected to the microgrid?
- (If needed) Do you also separately track how much energy is generated by your microgrid and by your generators at your facility?
 - (If yes) Do you have information on the size of the microgrid loads that your plant would be supporting when the microgrid functions as an island?
- If EIA asked you to report additional information related to power generating capacity of the microgrids on Form EIA-923, how much additional time would it take to report that additional information?
- Would reporting this additional information on your microgrid system require your company to modify any of its data systems?
 - (If yes) How much time do you estimate it would take your company to update those systems?
 - (If needed) Is this a one-time activity?

Part H - EIA-923 Respondents Current Questions

Schedule 3, Part B, Question 7-8

In Schedule 3 Part B of Form EIA-923, you complete a table on electricity generation.

- Can you explain the process of determining the gross generation and net generation capacity for your battery storage system?
- Are there challenges with reporting this information?
 - (If yes) What are those challenges?
 - (If needed) Is it difficult to determine generation data specific to the battery? Why?
 - (If needed) Is that because the battery is part of a larger plant/system?
- IF PARTICIPANT DOES NOT HOW THE VALUES ARE CALCULATED THEN ASK:
- Should Gross Generation (MWh) be measured at the generating terminal?
- Should Net Generation information (MWh) be calculated as Gross Generation minus station use?
- Does your company follow this methodology when filling out this table?
 - (If no) Can you explain your methodology when complete this table?

Part I- Wrapping Up

- Do you ever receive call backs from EIA to check the data you reported?
 - (If yes) Approximately how many calls did you receive last year?

- Do you have any problems filling out this form?
- Do you have any suggestions to improve this survey?

Thank you for your time today