**NY Prize Q&A Webinar**

**December 2, 2015**

**Hosted by Industrial Economics, Incorporated (IEc)**

**Summary of Questions and Answers**

**Question 1:** In the Microgrid Questionnaire deck, the question 1 voice over explicitly states IEc wants electricity usage per customer, NOT facility. Can you explain what you mean by that? For example, if a town hall is included in the microgrid, who is included in the customer group, the employees, all the town citizens, or just those who actively use the building (a mix of the two)? Also, for a business, do you mean the business’s customers or the employees? I initially assumed that by customers, IEc meant the utility’s customers, so I broke out the data by number of rate payers per facility.

**IEc:** Your initial assumption that “customers” are equivalent to rate payers is correct. Each rate payer should be counted as a customer.

**Question 2:** In the case of existing DERs, how should they be accounted for? Many of our microgrids include local backup generation (i.e., natural gas and diesel generators) as part of the microgrid and I want to be sure to account for that correctly in both the Microgrid and Facilities Questionnaires.

**IEc:** Existing DERs should be listed in Question 2 of the Microgrid Questionnaire. If the existing DERs are currently used as backup generation, then they should also be listed in Question 2 of the Facility Questionnaire. If you are listing the same DERs in both tables, please use consistent labeling so we can be sure that the BCA model is correctly associating each DER with the proper facilities.

**Question 3:** In the Microgrid Questionnaire deck, question 15 requires that we include the number of days the proposed/included DERs can stay in island mode. How does that account for natural gas generators and solar panels that can operate continuously given properly functioning gas pipelines and solar arrays?

**IEc:** If there are no limits to the amount of time that DERs can run in islanded mode, please indicate that in the questionnaire.

**Question 4:** In the BCA model itself, the prices of natural gas reflected in the State Energy Plan do not reflect current market prices (and have not for at least 2-3 years). In some cases, the projected natural gas prices are as much as twice the price of current and recently projected natural gas prices. Is it possible to propose the natural gas prices that we expect our microgrids to pay?

**IEc:** We want to apply a consistent set of assumptions about fuel prices to the analyses for all sites. For that reason, we will rely on the best information provided by NYSERDA for fuel price projections. If it becomes necessary to adjust the model’s fuel price projections, we can apply a uniform scaling factor. We will determine whether or not to do so in consultation with NYSERDA.

**Question 5:** How does the model define peak load support? Does it define peak load support as the change from baseline or the total generation that the microgrid provides during a peak demand event? We have assumed that all of the microgrid’s operating generation capacity contributes to peak load support, because every MWh generated by the microgrid represents a unit of energy that does not have to be generated by a bulk energy supplier. However, we assumed that the microgrid will not be eligible to participate in Demand Response programs because it doesn’t have much capacity for change from baseline.

**IEc:** The model defines peak load support as the total generating capacity that the microgrid could reliably provide during a system coincident peak demand event. If it is reasonable to assume that all of the microgrid’s generating capacity would be available at that time – as might be the case for fuel-based resources that would operate as base load plants, or for fuel-based resources that could operate as dispatchable generation – then that capacity can be considered to provide peak load support. Available capacity may be less than nameplate capacity for some types of renewable energy sources, such as wind and solar. In these cases, please adjust your estimate of the capacity available to provide peak load support to take into account the resource’s average availability. Please note: backup generators that will be used only in emergencies, when the microgrid is operating in islanded mode, should not be included in your estimate of the capacity available to provide peak load support.

**Question 6**: For the Q&A session, could there be a description of the source information for fuel and electric cost and downtime cost assumptions?

**IEc:** The source information is as follows:

* Fuel cost assumptions: EIA’s Annual Energy Outlook, as reported in New York’s 2013 Draft State Energy Plan;
* Energy and Capacity Prices: NYISO for Energy Prices, DPS forecast for Capacity Prices;
* Downtime cost assumptions: DOE’s Interruption Cost Estimate (ICE) Calculator and methodology from the Federal Emergency Management Agency (FEMA).

**Question 7:** Will information on aggregate loss of revenue incurred by a facility from an outage be sufficient?  Our facilities have not tracked specific costs (like loss of medication and moving patients, as are used in the examples).

**IEc:** Yes, it is fine to provide aggregate information for all facilities. We simply ask that you specify, to the extent possible, which portion of costs is likely to be incurred on a one-time basis during a power outage, and which portion of costs is likely to be incurred each day. That will enable us to appropriately scale your cost estimates for major power outages of different durations.

**Question 8:** Do you have guidance for filling in gaps where information is not available (any standard metrics, or use of data from similar facilities as an estimate?)

**IEc:** We hesitate to give specific guidance without knowing the nature of the data gaps you’ve encountered. In previous analyses we have occasionally been able to obtain standard data from publicly available sources (e.g., estimates of the costs of student housing or the value of a nursing home bed). Please contact us if you need assistance with filling in information gaps, and we will try to help you out.

**Question 9:** For Question 1 of the Microgrid Questionnaire, can we add in additional rows for additional critical facilities?

**IEc:** Yes, feel free to add additional rows to provide information for additional facilities.

**Question 10:** Q2 – Do all of the units need to be the same for this?

**IEc:** Question 2 of the **Microgrid Questionnaire** deals with information on the distributed energy resources the microgrid will incorporate. For the Fuel Consumption per MWh section of the table, please use whatever unit is appropriate for the fuel used by each DER. In the example provided, the relevant unit is MMBtu/MWh.

Question 2 of the **Facility Questionnaire** deals with information on the backup generation capabilities of facilities connected to the microgrid. For the Fuel Consumption per Day section of that table, please use whatever unit is appropriate for the fuel used by each backup generator. In the example provided, the relevant unit is MMBtu/Day.

**Question 11:** Q5 Participation in demand response – How do we separate current and new? If they are large-scale programs, how do we document that under “facility name?”

**IEc:** The information of interest for the BCA model is the marginal impact of developing a microgrid. This question asks you first to identify current capacity participating in a demand response program in order to net out that portion of the capacity that would participate in a demand response program once the microgrid is complete. If it is simpler to estimate the new capacity that would be able to participate in a demand response program with development of the microgrid, then feel free to do that instead.

Similarly, if it is simpler to provide a single estimate of the total capacity that would be available to participate in a demand response program for all facilities connected to the microgrid, it is not necessary to estimate separate capacities for each facility.

**Question 12:** Q12/Q13/Q14 How do we calculate O&M? Is it a summation / percentage of capital costs? How do we calculate for each DER?

**IEc:** In our experience analyzing other microgrid projects, O&M costs have been estimated using several different methods, including as a percentage of capital costs. We encourage your team’s engineers to rely on their expertise and professional judgment to develop a reasonable estimate of your project’s O&M costs.

**Question 13:** Q20 (emissions rates) – Multiple generation sources, how will that work?

**IEc:** Rather than provide a separate estimate for each DER, you can provide your best estimate of the aggregate emissions rate (for each pollutant) for all DERs included in the microgrid.

**Question 14:** Do we need to do anything to incorporate your results into our final document ourselves besides just attaching it? In other words, do we need to summarize it ourselves or respond to findings?

**IEc:** It should be sufficient to include the results of the benefit-cost analysis as an appendix to your document.

**Question 15:** Is fuel input data entered in HHV or LHV?

**IEc:** After consultation with NYSERDA, we recommend using the Higher Heating Value (HHV).

**Question 16:** On the Microgrid Data Questionnaire, the presentation shows 25 questions, but the form only shows 22.

**IEc:** We updated the questionnaire in early November. If you are looking at a questionnaire that has 22 questions, then that is likely an outdated version of the questionnaire that was previously posted on NYSERDA’s website. Please refer to the most recent version of the questionnaires – either the versions that were emailed on November 19th or the ones provided with this webinar.

**Question 17:** We have a nodal basis for sharing resources. Can we submit data on nodes instead of facilities for the microgrid questionnaire? Nodes mean a group of facilities that are in one area and very close, so they might be interconnected. Each node is operating almost as an independent microgrid in an outage. Can we provide information on capacity and energy use on a nodal basis?

**IEc:** Yes, you can submit initial results by node. If we have questions on your response, we’ll get back to you.

**Question 18:** What were the 1/22/16 and 3/1/16 dates for?

**IEc:** The 3/1/16 deadline is the deadline for submission of completed feasibility studies to NYSERDA. Given the amount of time that IEc will need to complete analyses for all sites, we arrived at 1/22/16 as the deadline for submitting the information we’ve requested from you to run the BCA. The sooner we receive completed questionnaires for your site, the sooner we’ll be able to return the results of the BCA.

**Question 19:** If our preliminary analysis of optional components shows them to be not financially viable without subsidy (e.g., batteries), should we include them in the questionnaire?

**IEc:** If you do not believe that such components will be financially viable and you do not plan to include them in the designed microgrid, you should not include information about those components in the questionnaire.

**Question 20:** Loads may have different peak demand times. Should the peak demand of a load be provided for the system peak time or for each individual peak even if the peaks occur at different times? For instance, one load may peak in Feb and one in July.

**IEc:** Please provide an estimate of the demand of a load at the system peak, not each individual load’s peak.

**Question 21:** Do we need to get actual cost data for previous power failure events and find out the duration of power failures for the service area of the microgrid?

**IEc:** No, you do not need to gather historical cost data for previous power failure events. We are asking for best estimates of likely costs in the event of a power failure.

**Question 22:** In NSYERDA's Attachment C: Scope of Work, the Task 1 asks to “Take account of a comprehensive cost/benefit analysis that includes, but is not limited to, the community, utility, and developer’s perspective.” What gas and electric forecasts should we use? Those presented in the BCA model for the community or other forecasts from the developer’s perspective? The issue we see is that the implied heat rate and spark spread based on the BCA forecasts is not what a developer would use to evaluate the project.

**IEc:** For purposes of our analysis – which applies a societal cost test – we want to apply consistent methods and data across all projects. We therefore ask that you stick with the forecasts in the BCA model in completing your questionnaires. If there is information that you think is relevant to take into account in characterizing the benefits or costs of your project from the perspective of the community, utility, or developer, you can provide and apply that information elsewhere in your feasibility study.

**Question 23:** Is there a public database that has historic power failure information for specific communities?

**IEc:** DPS publishes reliability reports annually for investor-owned utilities. The reports include typical indices for reliability (SAIFI, CAIDI, etc.). You can consult these DPS reliability reports for communities served by investor-owned utilities. For other utilities, such as municipally-owned utilities, you can consult state-wide averages or get information from your utility partners. We do not have community-specific data.

**Question 24:** How is the premium over index for delivered cost of energy (e.g., for natural gas) captured? Many gas rates have tiered pricing.

**IEc:** Our analysis relies on forecasts of statewide average fuel prices. It will not be conducted at a high enough level of detail to capture the implications of tiered pricing.

**Question 25:** Can you provide a Q&A documenting today's questions and answers?

**IEc:** Yes, we will post both an audio recording of the webinar and a written summary on our FTP site.

**Question 26:** How does the BCA estimate the value of services lost associated with facility types (e.g., an airport) not specified in the facility questionnaire? Should we handle these on a case by case basis?

**IEc:** The analysis will handle impacts of this type on a case-by-case basis. For an airport, for example, we would need additional information on the average number of travelers and flights that would be affected each day during an extended power outage. If you have a situation like that, please let us know.

**Question 27:** Is it possible to include other benefits, such as waste-to-energy, into the BCA?

**IEc:** Please let us know if your project may have benefits, such as waste-to-energy benefits, that the BCA model is not designed to address. We will explore the possibility of incorporating those benefits into our analysis of your site. If we are not able to provide quantitative estimates of those benefits, we can at least acknowledge them in our summary.

**Question 28:** Following up on the questions about nodes: Are you saying that the nodes can be submitted as one facility questionnaire or that we can submit multiple Microgrid questionnaires (one for each node)?

**IEc:** If the information you are aggregating at the node level is related to facilities, then you can submit multiple Facility Questionnaires, one for each node.

**Question 29:** Can the answer/info regarding natural gas HHV/LHV question be provided to everyone?

**IEc:** Yes. Please see the response to Question 15.

**Question 30:** How do we get the data for past power failures?

**IEc:** We recommend that you consult DPS reliability reports, which are published annually and are available online. These include data for past power failures. You can also talk with your utility partners.

**Question 31:** The FEMA organization provides funding to communities to recover the costs of power failures and other events. Is that data available to see who applied and how much it cost to deal with a power failure of a particular time?

**IEc:** We have not come across that data and are not sure if it is available. We use data and methods from the FEMA Hazard Mitigation Grants Program in our BCA. These grants are not generally based on historic data, but instead on a prospective analysis of the potential damages of a power failure or other type of emergency. If you do contact FEMA for this kind of information, we recommend you ask to speak with someone familiar with the Hazard Mitigation Grants Program.