

**CHP-FC Work Group Minutes**  
*Storm Response Long Range Plan*  
 Wednesday June 19, 2013  
 1:00 PM – 3:00PM  
 1st Floor Merit Board Room  
 NJ BPU 44 South Clinton Ave.

Agenda:

1. Rutgers’s CEEEP presentation of the CHP Cost Benefit Analysis model and assumption- Frank Felder
2. Presentation and discussion of the comments on the CHP Portfolio Standard (PS) straw proposal
3. Next step for the CHP PS
4. Additional discussion on:
  - a. Current program efficiency thresholds for fuel cells. Should the efficiency for fuel cell with electricity only be less than (or more than) 50% LHV? If this is reduced – what should the requirement be and should the rebate also be reduced?
  - b. Should islanding and independent operation from the distribution grid of the new CHP unit to be constructed or installed be a requirement of the program for public/critical facilities? Should this be a requirement with no additional incentive or an additional incentive? What range if any? Definition of critical facilities?
  - c. Should the NJCEP program incentive be limited to only that portion of the CHP/fuel cell that offsets onsite electric load or should the facility be allowed to, and incentivize for, additional power for export to the energy market over and above the onsite power needs?

Attendance:

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Scott Hunter – BPU, Renewable Programs:

- There was recently a meeting on 6/7. Rockland Electric has a customer who wishes to install both CHP and Solar system on the same circuit on the same meter. Rockland has concerns about the customer’s desires to net meter both systems. Talk to developer to ensure that they separately meter both systems so that they are not net metering the CHP system. Net Metering is provided for class 1 renewables, but there is no similar treatment for CHP. Needs to be some kind of regime for the EDC to determine the production of the solar system, so there is not excess crediting on a monthly basis.
- Similar requests from PSEG and JCPL. Recommended they install separate metering, helped to solve the problem.
- Several combinations that could potentially work, but they are working through it and looking over it. Developing through interconnect. If you would like to join, sign up, get the emails, and join the conversations.

Presentation by Frank Felder, Rutgers University (see supplemental presentation):

- Presentation is still in draft mode, this is not completed, still trying to collect more data. Major theme of the day is to provide comments.
- Cost Benefit analysis of CHP and distributed generation.
- Still trying to collect data from stakeholders.
- CBA looks at efficiency, doesn’t consider other values such as equity.
- Consistent with how NJ does its cost benefit analysis.
- Private vs. Social Costs Benefits
  - Actions taken by private individuals or entities that result in society bearing costs or receiving benefits are called externalities.
  - There could be some macroeconomic effects such as job growth which could be positive or negative.
  - Private costs and benefits relate and affect the social cost and benefits in the bigger picture.
  - SBC cannot be charged on NG used to create electricity for resale.
  - SBC increase – if generation and consumption by the same company
  - SBC decrease – if generation is by a third party.
- Important that everyone knows that you have to match the right thermal load, not every facility will work.

- Once the facility is built is it worth spending the money for CHP?
  - Are the savings with the CHP plant over time worth the capital it costs to build it? There is a decrease in electricity usage because it is being generated on-site and also an increase in gas usage because it's utilized to generate electricity.
- General remarks about CHP
  - Requires the right combination of thermal and electric load
  - Engineering efficiency is different from economic efficiency
  - CHP facilities require black start capability if they are to run when the electric power system is unavailable.
  - CHP applications are site specific
- Found on the website at <http://policy.rutgers.edu/ceep/chp> the complete graph that shows CHP technology type and key input parameters.
  - Observations: Numbers from referred studies are for the whole US and not for the state of NJ
  - Numbers reported assume simple installations and therefore no major installation costs.
- NG and Electricity Tariff assumptions requested for model spreadsheet.
  - CEEEP would like to meet with utility staff to understand standby tariff for CHP users and future rates for consumers of electricity and natural gas.
- User consumption data required for model spreadsheet
  - CEEEP would like to receive the following data for electricity and natural gas usage by a facility
    - Monthly Peak
    - Monthly Usage
- Reliability benefit calculation assumptions required for model spreadsheet
  - Capital cost of Black Start equipment
  - Private & Social assumption for Value of Loss Load
  - Outage frequency
- Avoided cost assumptions for model spreadsheet
  - CEEEP is updating the avoided electricity, natural gas, and environmental costs assumptions
  - Looked at a variety of projects to compare with assumptions. There is a specific NJ database
  - The data is from various sizes and is confidential but can use it to measure against assumptions.
- NJ CHP – Status of applications received
  - 1<sup>st</sup> round of Large scale CHP run by EDA with technical review by BPU
    - 6 projects approved
    - 2<sup>nd</sup> round initiated Jan. 2013
  - ARRA solicitation Program 2010
    - 6 projects approved
  - Small Scale CHP program
    - Received detailed applications for 1.a 6 applications, 1.b for 1 applicant, 2.a 6 applications, 3. 4 applications
  - These applications were not part of a competitive solicitation process
- Summary of what has been completed
  - A data base of 39 CHP technologies has been compiled using credible sources
  - A CBA model is being developed which would do the analysis of CHP from the perspective of owner and the society

- Test cases are being run through the model
- Stakeholders have been asked to provide input assumptions
- Stakeholders please provide their input on assumptions within 2 weeks from today (6/19)

Mike Winka – BPU:

- TRC filing for new combined small and large scale CHP program
- Program funding and incentive levels will go to the board for approval, but some of the other items may be deferred until more information is compiled, including the fuel cell efficiency issue, sizing of system, and independent grid operation.
- Public and private – distinction between them in terms of spending
- How many CHP facilities were able to function through Sandy?
- There is a definition on the OEM & FEMA websites for defining critical facilities and also what is public vs. private
  - Are hospitals considered to be public or private?
  - Definition will be posted to the CHP site in order to continue determining critical facilities
- Next meeting will be discussing 3 unresolved issues along with the public comments received:
  - Grid islanding/black start capability
  - Critical facility determination
  - Fuel cell efficiency
- Clarify the EIT budget and involvement with NJCEP budgets
- Comments on CHP portfolio standards:
  - Legal authority
  - Moving forward with the portfolio standard
  - Not setting a budget yet
  - Need to refine portfolio standard after comments are discussed in order to move towards a final
- Discussion about the public comment about statute involving a competitive process for third party suppliers that supply gas to a CHP incentivized project
- Next meeting is TBD