

WG VIII

Demand Response and Peak Reduction

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WG VIII Charge from July 3rd

Procedural Ruling

- Identify specific measures not presently achievable through the NYISO, SBC, EEPS, etc. that can aid in advancing demand response with particular consideration of Environmental Justice (EJ) Communities.
- EJ Roundtable requested consideration of a study to assess health impacts on communities that host peak generation facilities, and for opportunities to render facilities obsolete through energy efficiency resources.



WG VIII Scope of Work

- Six Topics warranted further Discussion and Investigation:
 - 1) Integration of DR and Energy Efficiency
 - 2) Commercial & Industrial and Residential DR
 - 3) Advanced Metering and Infrastructure (AMI)
 - 4) Time Variant Tariff Rate Proposals
 - 5) Distributed Generation/Combined Heat & Power
 - 6) Environmental Justice Communities

MV&E and Cost/Benefit Analyses for DR/DG/CHP

“(T)he economic analysis methods for quantifying the benefits of Demand Side Management (DSM) are insufficient to capture the value of Demand Response (DR)”

- Measurement, Verification and Evaluation (MV&E) are critical to the success of DR.
- “Subject to adequately rigorous MV&E, peak load reductions and DR can defer or eliminate transmission and distribution investments and this value should be included in Benefit/Cost calculations. However, utilities may be unwilling to include peak load reduction and DR measures absent clear direction as far as MV&E and B/C.”
- The EEPS Evaluation Advisory Group (EAG) is urged to identify, develop, or have developed for it, avoided cost metrics (including time and location specific data) and cost/benefit approaches that better capture the attributes of peak load reduction, demand response, DG/CHP and load shifting.



Demand Response

- Integration of DR and EE
- Commercial and Industrial and Residential DR
- Advanced Metering
- Time Variant Tariff Rates
- Distributed Generation/Combined Heat & Power (DG/CHP)

Integration of DR and EE

“WG VIII believes that there are important synergies between DR and energy efficiency (EE) and that any demand side initiative that considers both in a balanced way will necessarily be more cost-effective and yield larger benefits than a program that considers either in isolation....Integration of the energy efficiency and demand response programs would facilitate expansion of DR into the smaller customer sectors and provide greater opportunity for automation in all customer sectors ”

- Encourage the Program Administrators (PA) to develop cost effective combined DR and EE programs which complement their proposed EEPS Program offerings. Such integrated programs may then be submitted as supplements to their existing EEPS filings.
- Using the existing avoided cost models for EE as a starting point, incorporate a calculation of the avoided costs for DR and monetize other direct societal benefits (such as reduced wholesale prices) from a range of demand response programs and actions so that the programs and measures can be appropriately screened for possible inclusion in SBC or EEPS funded offerings.

Commercial & Industrial and Residential DR

“WG VIII believes that a balanced, economically efficient, approach to DSM must include all of the relevant pieces, in proportions that vary according to the needs of the state and relevant Program Administrator. Using a generator analogy, an efficient DSM portfolio must have a combination of “peakers” (DR) “load following” (price responsive), and “baseload” (EE.)”

- Prior to the implementation of a statewide Forward Capacity Market, PAs should be directed to consider supplementing their 90-day filings with additional C&I DR RFPs to address peak load, local constraint, or other needs, as appropriate to their individual situations.
- Following this RFP process, PAs may enter into contracts to retain existing resources and attract such new resources as are required, at a minimum to maintain or improve system load factors, as recommended by Staff in Phase I of this proceeding.



Commercial & Industrial and Residential DR (cont.)

- RFPs should seek to acquire such resources at, or below, forecasts of applicable avoided costs and be offset by the revenues that can be garnered from the competitive market. Avoided cost in this context should be reflective of the EAGs expected efforts to better quantify the benefits or DR that are not captured by traditional EE cost/benefit tests.
- With respect to residential and small C&I customers, WG VIII recommends the introduction of one or more direct load control (DLC) programs. If the PAs and the Commission conclude that a statewide program is advisable, WG VIII supports and encourages that approach. If not, these programs should be of sufficient scope to have a meaningful impact on peak loads and should be coordinated between the PAs in such a way as to maximize synergies to the extent possible while minimizing entry barriers for competitive suppliers.

Commercial & Industrial and Residential DR (cont.)

- The utilities should be directed to consider, consistent with competitive policies under retail commodity access rules, including in their compliance filings proposals to allow for co-marketing and co-branding opportunities with third party DR providers. These opportunities can be separate or a part of the long term RFP process recommended above.

- Alternative viewpoints or dissenting opinions were filed by:
 - Con Edison Solutions,
 - Constellation NewEnergy,
 - Direct Energy,
 - Hess Corporation

- These parties are generally concerned that long-term contracts outside the competitive market may have a negative impact on that market. They are also concerned that the costs of such contracts be recovered in such a way as to be competitively neutral.

Advanced Metering and Infrastructure (AMI)

“To move forward with a plan to achieve aggressive energy reduction goals without including demand response and advanced metering would limit the opportunity to maximize conservation of electricity during peak periods.”

- WG VIII supports and encourages swift Commission and DPS action in their ongoing Advanced Metering Proceeding (Case 00-E-0165) We specifically support the cost-effective provision of advanced metering capabilities that foster greater penetration and MV&E confidence of energy efficiency, demand response, and dynamic pricing programs.



Time Variant Tariff Rate Proposals

“Dynamic pricing attempts to induce demand response by more closely tying the price of electricity to its marginal cost in the wholesale market.”

- The PSC should encourage PAs to work jointly to test three dynamic pricing options: Time of use pricing that has a peak period that is narrowly focused to address the system peak; a voluntary residential Real Time Pricing (RTP) with prices based on real-time wholesale energy market prices; and a peak time rebate program that would give customers rebates for reducing their consumption during system peak.
- PAs should work collaboratively with the Commission Staff and the EAG to determine a common understanding of the "benefits" of dynamic pricing, so that it can be properly valued and used by TOs to evaluate advanced metering proposals.
- The Commission should continue to expand hourly pricing where it finds it to be beneficial. The Commission should encourage utilities to investigate changes to their MHP tariffs to recover capacity charges over fewer hours.

Distributed Generation/Combined Heat & Power

“Properly designed and implemented DG/CHP (including residential micro-CHP) programs can offer efficiency and emissions reduction benefits that could meet thermal and electricity needs throughout New York State, particularly in electrically constrained areas such as load pockets, networks, and/control zones. DG/CHP systems can reduce peak demand as well as reduce overall energy consumption”

- Permit EEPS and SBC funds to be deployed for support of cost-effective, efficient DG/CHP installations, including Micro-CHP, that have lower net emissions than the average fossil-fuel central generation in New York State and encourage PAs to include incentives as part of their current and future EEPS programs.
- Adopt an efficiency standard of 60% average annual efficiency and the ability to be dispatched during electric system peaks and or when called upon for reliability events for DG/CHP participating in EEPS programs, recognizing that micro-CHP installations and larger installations may merit distinct standards.

Distributed Generation/Combined Heat & Power

- Encourage PAs jointly or individually to develop and implement programs for micro-CHP installations in 1-4 family homes, including low-income homes, and smaller commercial installations, and to propose intermediate-scale (1,000 + units) pilot demonstration projects if cost effective.
- EAG to review the current Total Resource Cost Test and recommending ways to update it so that it takes into account improvements in environmental and thermal benefits, among other factors, provided by DG/CHP and DR but not now considered, and to establish MV&E processes that better account for DG/CHP.
- An alternative viewpoint/dissent was submitted by:
 - Alliance for Clean Energy New York (ACENY).
 - ACE-NY believes that replacing central station with DG (however efficient) is not and should not be a part of this proceeding, and so opposes the use of EEPS funds to support micro-CHP.



Environmental Justice Communities

“Certain low income neighborhoods in New York, and very often communities of color, host peak generation facilities that are among the higher emitting and most inefficient units in the state. Environmental Justice advocates have asked the Commission to determine whether there are opportunities to render those facilities obsolete through the acquisition of energy efficiency resources. However, whether or not specific generators can be replaced, or their operations significantly reduced, by clean DSM resources is a very technical question and one which WG VIII is not capable of answering in isolation. ”



EJ Communities

- Interpretation of the Charge
 - To identify whether the output from peak generation facilities could be fully or partially replaced or displaced with clean DSM resources.

- In the most general terms DSM resources can act as substitutes for generation, with certain types of DSM resources being better suited to substitute for certain types of generators.

- Can DSM replace generation from specific plants or turbines without adverse impacts to system reliability?



Recommendation for Further Study

- Established a Technical Study Group to conduct an initial assessment whether the output from peaking turbines w/in a half-mile of a potential EJ community could be fully or partially replaced or displaced with clean DSM resources.



Alternative Viewpoints and Dissenting Opinions

RE: EJ Communities

□ NYISO

- NYISO is concerned that the scope of the Technical Study Group's is insufficiently detailed and that insufficient time has been allotted in which to do the required work.

□ IPPNY

- IPPNY and its Members believe the EEPS proceeding is not the proper venue to determine whether specific peaking facilities could be rendered obsolete through full or partial replacement with demand-side management (DSM). Such a determination should be made in the context of a reliability proceeding, instead of one focused on improving energy efficiency.
- IPPNY recommends that additional studies be undertaken and market-based solutions (re-powering and increased DSM penetration) be investigated before the Commission proceeds further with this initiative.



Technical Study Group

- Kick-off Meeting: October 29, 2008
 - Data collection activities ongoing

- Proposed Evaluation Criteria
 - Emissions and impacts from the turbines
 - Generation data (MWh, CF) and age of the turbines
 - Roles of Turbines (reliability, blackstart, etc.)
 - Demographics



Report to ALJ's – Dec 1, 2008

- Report out to Steering Committee
 - Determine which of the 60 simple-cycle turbines (having less than a 10% capacity factor) whose output of which can be fully or partially replaced by DSM resources to a workable number.
 - Potential Recommendations to the Commission
 - Pilot studies
 - Additional technical analyses
 - Other mechanisms to reduce emissions and health impacts to EJ communities



WG VIII

- Comments/Questions?