Introductions

Framework

- Identify and tackle technical barriers through consensus solutions.
  - Has to be sound engineering decisions
    - What is a sound engineering decision?
  - Accelerate some of these solutions without any sort of force

- Focus on results.
  - Specific goals and resolution in a timely manner
    - SMART Goals
    - Communication on constraints and challenges – “opportunity for both sides to air their thoughts”-Jason
    - Implement results in a timely manner

- Work with parties outside the TWG is encouraged.
  - Technical experts and third party expertise
  - Plans for technical consultant to join group
    - provide topic specific assistance and experience towards decision making process
    - Develop white papers and other work products for our review

- This group is not:
  - Arbitrator for individual project disputes
  - Will not handle per project DER challenges
  - A lot of crossover, but
    - We want to stay focused on technical issues and the subsequent, necessary results

- Set up a page on the website for the TWG
  - Meeting schedules
  - Presentations, material (not confidential or sensitive)

- Participant input….
  - Voting framework?
  - Informal group consensus?
    - What happens when we can’t reach consensus?
      - Reach out to other industry reps or research groups for advice
      - Benchmark against other jurisdictions
      - Co-Chairs would be final decision makers in case of non-consensus.

- Primary focus out the door is solar since it is the largest industry….then down the road more system types (such as CHP or wind) will be looped in.

- Leveraging of outside resources
  - TWG can be a vehicle to leverage available outside resources when analysis call for processes not readily available i.e.: Lab work

- Trying to accommodate everyone’s schedules
  - Potentially 6-8 hour meetings if quarterly
  - Suggestion for 5-6 hour meeting if bi-monthly
  - Location may change to NYSERDA for more convenience / parking
Solar Industry Perspective: Interconnection Technical Review Group (refer to presentation)

- **Vision**
  - To research and aggregate information to identify improvements and facilitate the adoption of best practices that drive a continued simplification and streamlining of the interconnection process, lower interconnection costs, and meet REV and other state goals while maintaining the safety and reliability of the Electric Distribution System

- **Goals**
  - Research and synthesizing bet practices for regulatory standards as well as utility and developer processes
  - Harmonize tech standards where possible
  - Transparency on tech standards used by utilities and rationale supporting them
  - Greater communication and collaboration between utilities and developers to:
    - Identify what is working well and where there are areas for improvement
    - Offer suggested improvements to the SIR allowing it to more rapidly reflect the identified best practices and improved processes.
  - Ask the right questions to get the right answers

- **Transparency**
  - Standards and underlying technical justification
  - Manual or guideline matrix (Massachusetts currently has)

- **Collaboration**
  - Feedback channel for issues identified internally by utilities or developers
  - Sharing unique or innovative strategies

- **Make the SIR a living document**
  - In order to meet the governors 50% by 2030
  - ITWG can help ensure that interconnection standards remain optimized by:
    - Offering recommendations and best practices for inclusion into the SIR
    - Assessing the value of changes to be applied to the SIR
    - Focus on potentially providing a technical reference guidebook that the SIR can reference

- **Other outstanding issues**
  - Interconnection Queue management
  - Customer name designation on application
  - Process for updating CESIRs
  - Project bundling and other cost sharing mechanisms
  - Timeline enforcement mechanisms
    - EIMs
    - Separate initiative

**Joint Utilities Perspective**

- **Collaboration and common goal**
  - Shared customers and clients – in best interests of both parties to collaborate
  - Shared interest in enhancing the efficiency of the interconnection process
  - Common goal of streamlining interconnection process while ensuring safety and reliability
    - We have final responsibility for the safety and reliability of the grid.

- **Alignment with the DSIP**
DSIP calls for automated interconnection process consistently across the state
  - Consensus among parties commenting on the SIR that there are interim steps that can be completely more quickly with higher impact while pursuing a longer term vision. This was supported through the EPRI Gap Analysis.
  - Opportunities to make progress on key issues through this TWG.
  - Data availability/accuracy – did not require the same level of precision when power flow was one way

DSIP guidance requires initial utility activities related to hosting capacity to be defined and a standard approach applicable to all the utilities to be included in the Supplemental DSIP
  - Alignment of methodology and goals to extent possible among JUs
    - Opportunity to learn from California
  - Stakeholder input will be critical, but through a separate process within the DSIP
  - Will assist with customer acquisition costs and queue management

Queue management
  - Enhancing queue management
    - Cost estimates & allocation
    - Queue position assignment
    - Pre app report
  - High priority for utilities
    - Ensure as many systems as feasible are constructed. With a queue clogged with projects not moving forward, fewer projects will be constructed.
    - Central Hudson received over 600 MW of CDG applications since 10/1/15, with a minimum load of 350 MW and peak load of 1200 MW. An additional 300 MW is anticipated.
  - Best practices from California (Rule 21)
    - Queue position accuracy and transparency
    - Site exclusivity to mitigate queue hogging

Benefits to the Pre application report
  - Planning and operating criteria and characteristics is required to provide insightful information on what upgrades are needed, which cannot be demonstrated by a single black and white number provided in raw data.
  - Utilities proposed to waive the interconnection application fee if submitted within a certain number of days of the pre application report.

Screening processes
  - A more robust screening process could be valuable after simplified screens are tested in New York State
    - Utilities concerned robust screens may slow the process down as indicated by current screening process at PG&E and SCE (see specific percentages on the slides).
    - Once tested in New York State, additional screens could be added through collaboration with the utilities, the industry, and potentially EPRI or NREL
    - Borrego Solar suggested potential size limits for an expedited screening process (1 MW)

Technical Issues
  - Monitoring
    - >200kW level suggested
All parties agreed the details should be discussed further

- **Smart Inverters Capabilities/Control**
  - Some implementation within Rule 21 in California
  - Opportunity with REV to participate in markets and mitigate the substation and distribution upgrades required to integrate solar
    - Dynamic PF adjustment could create opportunities
  - Opportunity to learn from Germany and ensure inverters are firmware upgradeable at a minimum
  - Implement standards that have already been approved
    - Then begin to work on capabilities that don’t have approved standards yet

- **Protection**
  - Substation backfeeding
    - The JUs look forward to opportunities to benchmark and standardize, where feasible.
    - Each utility has unique configurations
      - Even within service territories
    - Results in unique protection requirements and limitations

- **DTT/Anti Islanding**
  - Unintentional Islanding risk
  - Incomplete device libraries present challenges for implementing
    - No way of modeling algorithms within inverters
  - Opportunity to leverage this group and the third party resources to influence sharing of inverter models

- **Voltage Flicker**
  - Will need to discuss application of IEEE Standards

**Discussion**

- How to make data available to the utilities
- Mass research with solar, currently
- Academic studies in central NY with monitoring data that is digging into some of these issues
- Accuracy issues and lag time allowable with monitoring?
- Stakeholder engagement pending the finalization of the DSIP guidance
- Hosting capacity based on circuit minimum load is a useful tool to identify “low hanging fruit”
- Utilities are in the driver’s seat for hosting capacity pending a final DSIP Order
  - How do we get more penetration on the system comfortably with good engineering results?
    - The more you open the where question
      - The more you can assess the value of DG on the system
      - Important to compare “Apples to apples”
    - Hosting capacity is one of the two priority items for the utilities with reference to the DSIP
- Immediate Need Subjects;
  - Substation Backfeeding
    - Unintentional islanding concerns and solutions: DTT Requirements
    - 3V₀ Requirements
Tech Screening process
Monitoring requirements and solutions: RTUs, other
Smart inverter tech/adoptions

- SIR targeting March session (3/17/16), but not definite
  - If SIR is completed, go through it and answer questions
  - Technical screens

- DTT is used to resolve a safety issue
  - Anti-islanding won’t be completely figured out immediately
    - NREL is working on inverter “inner-working” standards

- Identify who we want to work with in the way of outside consultants
- Prioritize near term issues and push tech screenings a couple meetings down the road once outside consultant is on board.

Next meeting agenda:

- State DG Ombudsperson Update
- SIR
  - Go through and answer questions
  - Tee up Technical Screens
- Utilities to provide position and explain concerns and analysis associated with the following subjects
  - Substation backfeeding
  - Anti-Islanding
  - Monitoring
- Next meeting will be scheduled in April @ NYSERDA 10am-4pm

More Discussion

- Most community DG isn’t in the queue yet
- Next wave is likely to be next phase of CDG
- NYSERDA now requires application to the utility before incentive application
- How much is site shopping? How much is legit?
- Less pushback if developers have a forum in which they can share costs
- De-risk the interconnection process, but the trick is to do it without putting shareholders and rate payers on the hook for upgrades