Vermont System Planning Committee

Ensuring full, fair and timely consideration of non-transmission alternatives to address Vermont electric system reliability challenges.

QUARTERLY MEETING
SEPTEMBER 12, 2012
9:30 A.M.–4:00 P.M.
HOLIDAY INN
RUTLAND, VERMONT

Agenda

1 &2. Introductions/approval of minutes

3. Regional update

- FERC Order 1000 compliance filing—Mark Sciarrotta, VELCO
- Load forecast—Hantz Présumé, VELCO
- VT study update—Hantz Présumé, VELCO

4. Subcommittee reports

- VSPC process reform
  - NW & Central VT NT Initial reorg recs—Asa Hopkins, DPS
  - Pilot "project specific action plan"—GMP
- NTA screening tool revision — Steve Litkovitz & Bruce Bentley, GMP
- Energy efficiency & forecasting: geotargeting update—TJ Poor, DPS
- NTA Study Group—Doug Smith, GMP

5. Presentation: Net metering program update—Andrew Perchlik, Clean Energy Development Fund, DPS

6. New business: Discussion of VSPC role in determining where standard offer projects provide system benefit

7. Project Updates

- Screened in for NTA analysis
  - Rutland area (Blissville, North Rutland, Cold River) —GMP
  - Hartford area (Hartford, Chelsea)—GMP
  - Central Vermont—See section 4 above
- Other projects: discussion of format for this portion of the agenda

Regional Update

- FERC ORDER 1000 10/2012 COMPLIANCE FILING
- LOAD FORECAST UPDATE
- VT STUDY UPDATE

September 12, 2012

VSPC meeting

Hantz Présumé

VELCO

Resolving Load Forecast Uncertainties

Long-term and short-term uncertainties affecting electrical demand

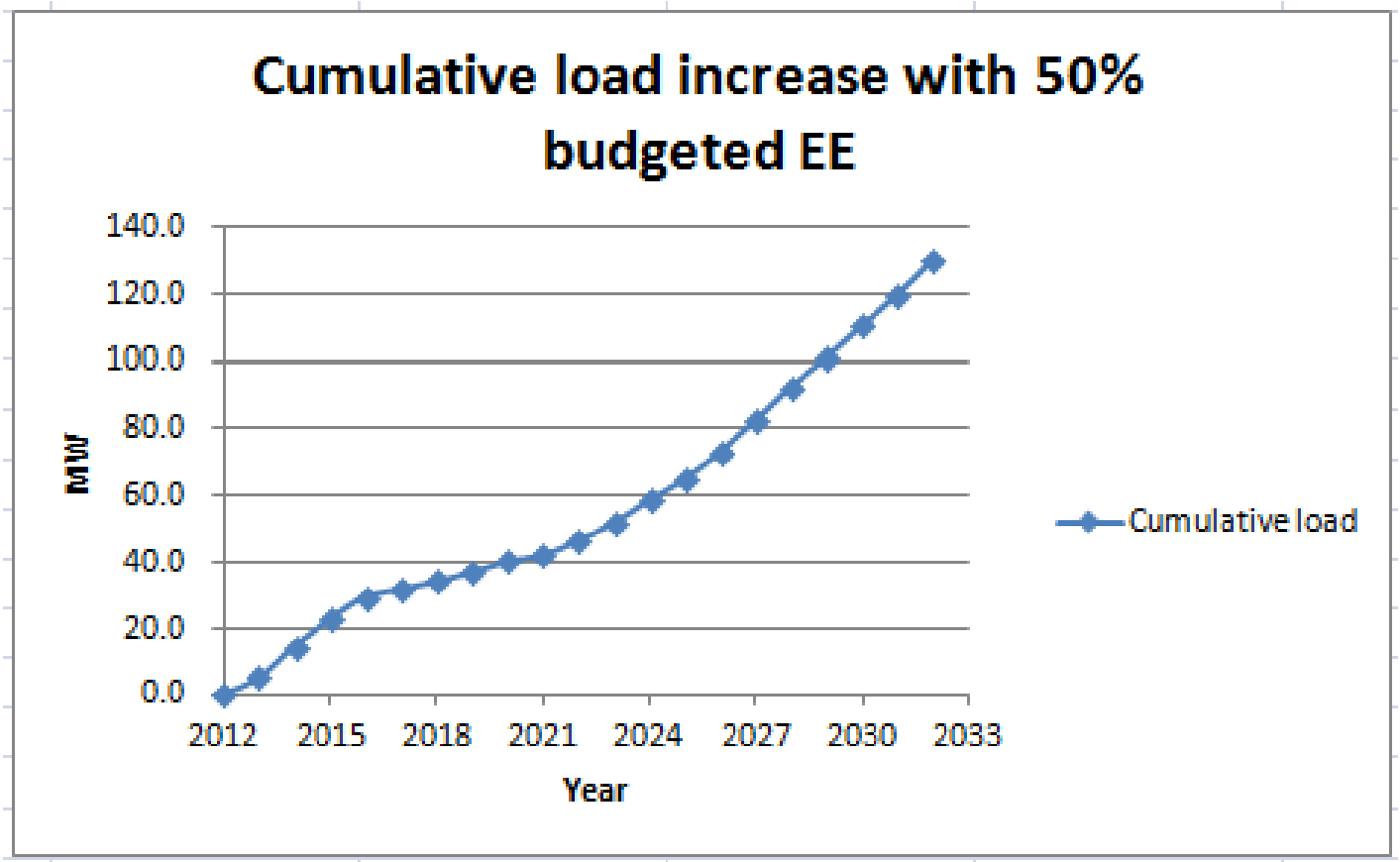
- Trajectory of economic growth
  - Continuing economic weakness
- Increased load from new technologies
  - Electric vehicles, cloud computing
- Future rate designs
- Demand savings from energy efficiency programs
- Progression of demand response (DR)
- Penetration of renewable energy
  - Load: net metering
  - Generation growth spurred by public policy: standard offer, utility-scale projects (more than 5 MW)

Short term observations

- The economy is recovering more slowly than predicted by economy.com and other experts
- Standard offer generation has increased more than fourfold since 2011
  - Reference SPEED presentation at VSPC June 13, 2012, meeting
- Net metering has increased more than threefold since 2011
  - Reference net metering presentation at VSPC September 12, 2012, meeting
- Another 10 MW of DR was bid into the forward capacity auction for 2015

Cumulative load increases from ITRON 90/10 load forecast

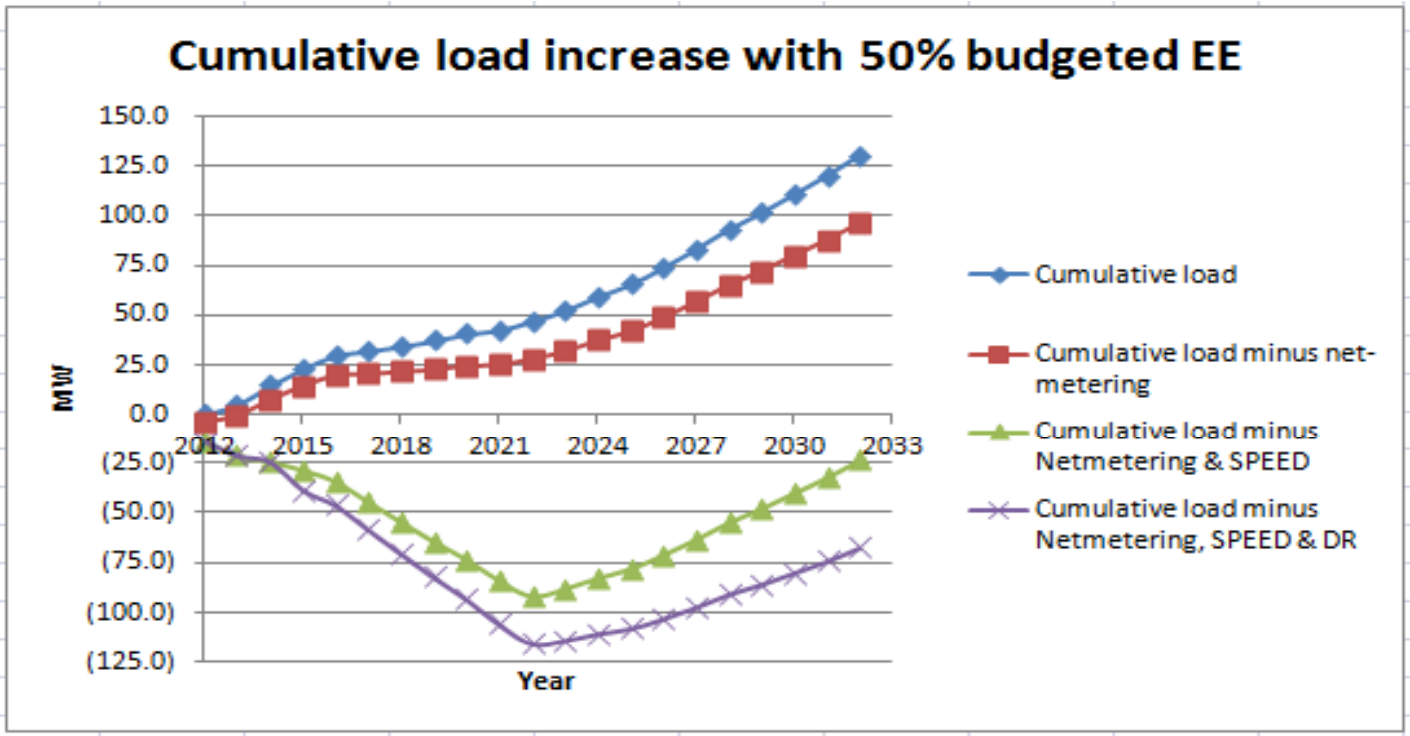
- Averaging about 6.5 MW per year over the next 20 years



One possible very aggressive scenario

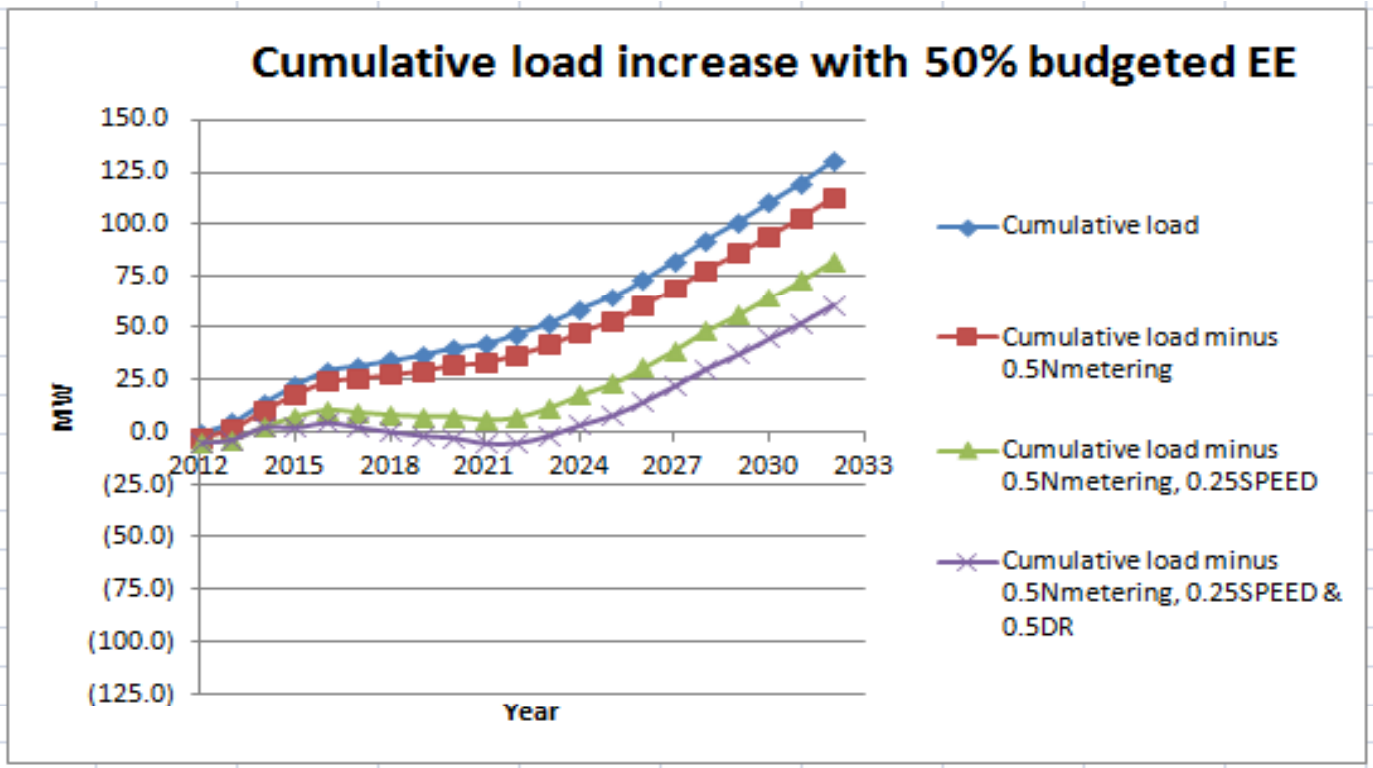
Benefits very high due to high developer interest and few barriers, perfect location, appropriate technology

- **Net metering: 6 MW existing, 4 MW in 2012 based on installation trend, and 1.5 MW per year as a conservative annual installation rate with a maximum of 34 MW in 2032 to reach the limit of 4% of state load.**
- **Standard offer: 8 MW existing, 10 MW in 2012 based on installation trend, and 11 MW per year as a convenient annual installation rate to reach a maximum of 120 MW in 2022 to reach the 127.5 MW future program cap.**
- **DR: 10 MW additional in 2015 based on ISO-NE load table in the VT/NH draft study scope, and 2 MW per year as a reasonable annual installation rate.**



One other possible less aggressive scenario

- Benefits can be lower than desired due to financial barrier, saturation, slower rate of installation, wrong location, wrong technology
  - Net metering at 0.75 MW per year (2 MW in 2012)
  - Standard offer at 2.75 MW per year (2.5 MW in 2012)
  - DR at 1 MW per year (0 MW in 2012, 5 MW in 2015)



Resolving the reliability need determination problem

- What adjustments need to be made to the published state economic forecasts?
- At what rate will standard offer, net metering projects, ISO-NE DR materialize?
  - Is recent jump in net metering sustainable?
  - How quickly will the 127.5 MW standard offer 10-year goal be achieved?
  - Will ISO-NE DR saturate, increase or decline?
- Resource location and technology are critical
  - Resources can be ineffective or even harmful if not well located
  - The daily shape of power generation needs to match the daily load shape (e.g. solar not good for late peaks)
  - Example: 100 MW resource is 50% effective due to location and has 50% capacity during the peak hours
    - Effective capacity = 100 MW x 0.5 x 0.5 = 25 MW

Example: 1.8 MW solar plant with 85% de-rate (shading, soiling, losses, age, etc) will deliver about 1.5 MW during best ambient conditions, but the median capacity value that could be bid in FCM is about 0.7 MW.

Next steps

- Seek agreement on how to estimate future standard offer, net metering, and DR
  - VELCO started discussion with NTA study group
  - Also need to engage DPS, ISO-NE and SPEED administrator
- Evaluate the need to reflect new economic forecast in future load demand
  - VELCO started discussion with ITRON and NTA study group
- Discuss above data with VSPC
- Discuss above data with ISO-NE for consideration in regional planning process
- Adjust reliability need based on above data
  - Northwest VT reliability need postponed even more
  - Timing and scale of Central VT reliability concern to be revised
    - The reliability need is expected to be reduced
    - Affects the design of the transmission solution and the NTA
  - Reliability need for Coolidge-Ascutney upgrade is largely unaffected
    - Regional power transfers and

Process Improvement

SEE LINKS TO:

DISCUSSION & FEEDBACK ITEM:

INITIAL RECOMMENDATIONS FOR SUBCOMMITTEE REORGANIZATION

http://www.vermontspc.com/VSPC%20Meetings/VSPCCommRestructure_toVSPC.pdf

DISCUSSION AND FEEDBACK ITEM:
PROJECT SPECIFIC ACTION PLAN
(PILOT EXAMPLE TO FOLLOW)

NTA Screening Tool Revision

ACTION ITEM:

VSPC REVIEW AND ACTION ON REVISED NTA SCREENING TOOL DRAFT

Background

- 1/30/2012 PSB approved VSPC proposed amendments to D7081 NTA screening criteria. New criteria include:
  - i. Projects for which need dates are imminent or have passed, or for which non transmission alternatives are clearly impracticable and/or uneconomic;
  - ii. All other projects.
- Purpose of changes: to move the VSPC away from excessive process and to help better focus the VSPC's efforts in addressing deficiencies through cost-effective NTAs.
- VELCO must ensure (i) is not applied excessively.
- By 7/30/2012 (extended to 9/30/2012) VSPC must:
  - Update screening tool to incorporate new criteria.
  - Define the terms "impracticable" and "uneconomic."
- NTA Subcommittee met beginning in 3/2012 to develop proposed revision.

Action needed at 9/12 meeting

- Action needed today: Full VSPC TO REVIEW AND ACT ON SUBCOMMITTEE'S PROPOSED REVISION
  - Link to proposed revised NTA Screening Tool: http://www.vermontspc.com/VSPC%20Meetings/NTA%20ScreeningTool_toVSPC0912.pdf
  - Link to current (unrevised) NTA Screening Tool: http://www.vermontspc.com/VSPC%20Reports%20%20Correspondence/NTAscreeningtool-final.pdf

Energy Efficiency & Forecasting Subcommittee Report

DISCUSSION & INPUT ITEM

DEVELOPMENT OF GEOTARGETING FUNDING MECHANISM RECOMMENTATIONS TO PSB

Geotargeting Funding Mechanisms - Overview

- In response to concerns regarding equity, PSB requested VSPC recommendation regarding how to fund targeted efficiency measures
- Cost allocation methods identified by EE&F are imperfect
- EE&F seeking
  - Input from full VSPC today
  - Authorization to take this input, and provide recommendation via email to VSPC; if no objection then submit recommendation to PSB by 9/28.

Considerations Regarding GT Funding Mechanism

- Align costs with benefits - avoid cross subsidy
- Avoid upward pressure on rates
- Understandable and explainable
- Utilizes a reasonable amount of resources to develop
- Consideration of benefits to utilities and customers
- Consideration of wires solution allocations
  - Transmission solutions allocated based on % load share via VTA
  - Sub-transmission solutions allocated for most utilities via Open Access Transmission Tariff (OATT) base on % load share
    - VEC (partially) and Lyndonville examples of exceptions
  - Distribution solutions funded by DU
- Consideration of "insurance pool" concept –
  - Does funding by the statewide EEC acts as an insurance pool

Two Possible Solutions (no consensus reached)

- Allow up to 10% of statewide EEC to be allocated to Geotargeting
  - If above 10% required, to be considered by the PSB
  - Complementary NTAs supported by affected DUs
- Fund Transmission, Sub-transmission projects with statewide EEC, distribution only projects with area-specific adder
- Other potential solutions, nuances:
  - Limit amount of statewide EEC funding to the T&D benefit – anything beyond would be EEC adder?

Standard Offer Projects and Electric System Benefit

DISCUSSION ITEM:

POTENTIAL ROLE FOR VSPC IN DETERMINING WHERE STANDARD OFFER PROJECTS PROVIDE SYSTEM BENEFIT AND MAY THEREFORE BE EXEMPT FROM THE PROGRAM CAP

BACKGROUND INFO:

Handout from PSB 6/22/2012 workshop

Slide presentation from 8/23/2012 PSB Workshop

http://www.vermontspc.com/VSPC%20Reports%20%20Correspondence/SPEEDworkshop_082312_rev3.pdf

Future Meeting Dates

DECEMBER 12, 2012 – BURLINGTON
MARCH 13, 2013 – RANDOLPH
JUNE 12, 2013 – MONTPELIER
SEPTEMBER 11, 2013 – RUTLAND
DECEMBER 11, 2013 – BURLINGTON