AMERICAN TRANSMISSION COMPANY®

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2013 10-Year Assessment
Generator Retirement Study Update

May 7, 2013

Stakeholder and Customer Presentation

Background

- Many potential scenarios for generator retirements in the ATC system.
- Overall goal is to test the impact of potential retirements on the system.
- Generators were chosen based on generic possibilities, not commitments or even speculation
- Mainly chose older coal units.

Study Assumptions

- Retired 1,360 MW within ATC & 856 MW outside ATC
- Created 3 Models
  - Based on 2013 series 2023 Project Deficient
  - 2 Summer Peak Replacement Power Models
    - All Imports
    - Minimum Imports
  - Shoulder 70% W-E Bias Model
- NERC Category B contingencies on Peak Models
- Select Prior Outage + NERC Category B on Shoulder Model

Potential Study Retirements in ATC Footprint

All Generators at:	Single Units at:
Menasha	Germantown G1 & G2
Escanaba	Weston G1 & G2
Lakefront	Pulliam G5 & G6
Shiras (Marquette)	Edgewater G3
White Pine Mine	Custer CT
Kewaunee	Biron PM, G1, G3 & G4
Munising	
Nelson Dewey	

Preliminary 2023 Summer Peak Results

Planning Zone	Project Deficient Base Model		Generator Retirement Model		
	Overload Needs	Low Voltage Needs	Overload Needs	Low Voltage Needs	New Needs
1	1	0	1	0	0
2	0	0	1	2	3
3	4	0	4	0	0
4	0	1	15	3	17
5	0	0	0	0	0
Total	**5**	**1**	**21**	**5**	**20**

Preliminary 2023 Shoulder Peak Results

Planning Zone	Project Deficient Base Model		Generator Retirement Model		
	Overload Needs	Low Voltage Needs	Overload Needs	Low Voltage Needs	New Needs
1	2	0	2	0	0
2	2	0	0	1	1
3	0	0	0	0	0
4	1	0	3	0	2
5	1	0	1	0	0
Total	**6**	**0**	**6**	**1**	**3**

Preliminary Conclusions

- Main impacts are in Manitowoc area in Zone 4
  - Severe overloads and low voltages on 69 kV network
- The limitations in Zone 2 can be fixed by future projects in the area

Next Steps

- Solution Development
  - Identify any long lead time solutions that may be needed
  - May generate high level cost estimates for potential transmission solutions
  - However, no new projects for 2013 Assessment
- Analyze and compare Prior Outage + Category B Contingencies on Shoulder Model
  - No new 2013 Assessment projects or cost estimates will come from these
- Document study for 2013 Assessment

Questions?

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