

Response to January 2nd to 8th, 2014 Electrical System Events

Presentation to Board of Commissioners of
Public Utilities

January 16, 2014

Overview

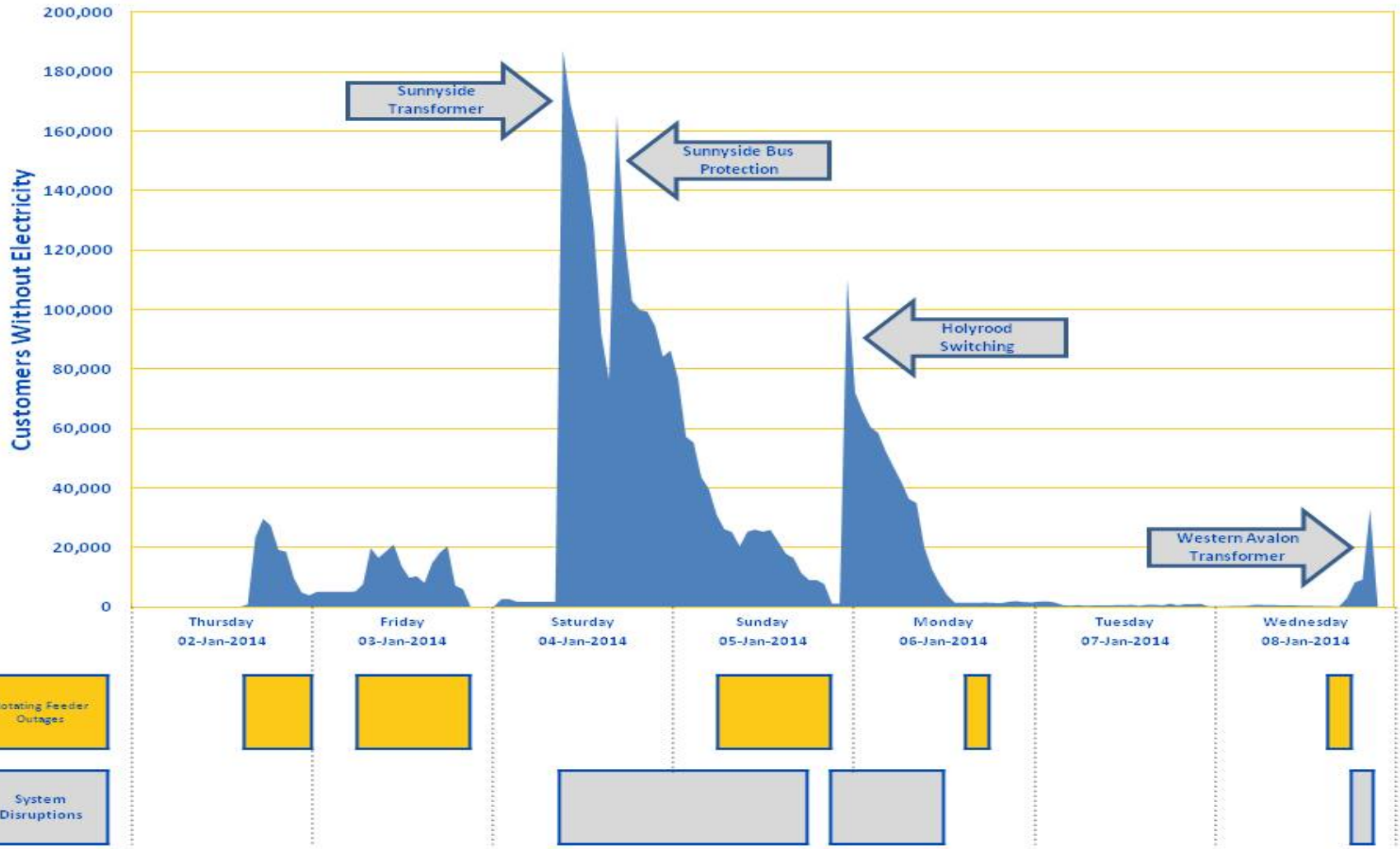
Customer impacts arose from

- Hydro system disruptions
- Hydro supply shortfalls
- 1st blizzard of season

Operational Preparedness

- Crew mobilization
- Staffed thermal generation
- Prioritized critical customers
- Increased staff at Control & Call Centres

Our Customers



Rotating Outages

Date	Time	Feeder Rotations	Average Duration (minutes)
Thursday January 2, 2014	4:13 pm to 10:45 pm	77	88
Friday January 3, 2014	6:57 am to 7:36 pm	141	44
Sunday January 5, 2014	7:23 am to 8:29 pm	158	54
Monday January 6, 2014	5:17 pm to 10:48 pm	39	47
Wednesday January 8, 2014	3:23 pm to 5:42 pm	32	25

Cold Load Pick-up

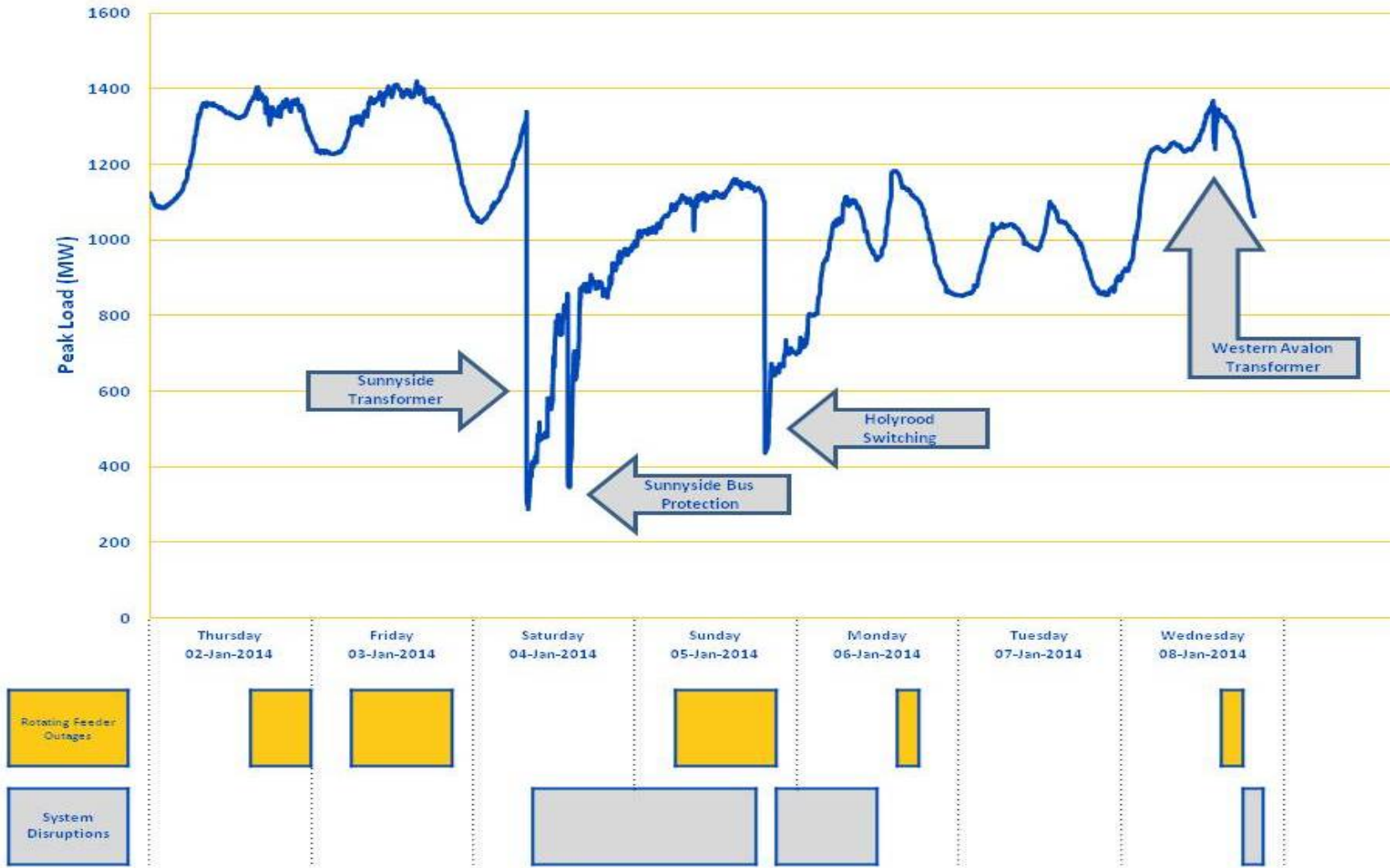
- Restoration of cold feeders can double demand
- The increased demand slows restoration
- Impacts fuses and feeder balancing
 - Blown fuses must be replaced manually
 - Restoration of unbalanced feeder requires manual intervention

- Storm damage to Newfoundland Power system was modest
- Accounted for 5.7% of total customer outage duration
- Trinity /Conception transmission failure most significant storm event

Key System Disruptions

- Sunnyside Transformer Fault
- Sunnyside Bus Protection Failure
- Holyrood Switching Fault
- Western Avalon Transformer Limitation

Customer Load



Key System Disruptions

Date	Time	Customers	Recovery (hours)
<i>Sunnyside Transformer</i> Saturday January 4, 2014	9:05 am	187,501	*
<i>Sunnyside Bus</i> Saturday January 4, 2014	3:33 pm	165,432	29.0
<i>Holyrood Switching</i> Sunday January 5, 2014	9:27 pm	110,392	14.5
<i>Western Avalon Transformer</i> Wednesday January 8, 2014	5:45 pm	29,300	0.5

System Operations

- Doubled 24 hour staffing
- Over 100,000 system events
- Over 1,000 feeder interruptions
- Over 450 feeder rotations

Generation Performance

- Hydroelectric generation
 - Units ran consistently through December 2013
 - Production during system events limited by low water levels
- Thermal generation
 - Key Greenhill & MGT units ran well
 - Greenhill limited by fuel for 20 hours

Response

Customer Contact Centre

- Additional telephone lines installed
- 156,008 customer calls answered
- 60 additional employees trained
- Reduced busy signals for customers by ½

Website

- Almost 950,000 visits
- 219,000 visits on January 4th

Response

Social Media

- Twitter: 350 posts; 6,000 new followers
- Facebook: 166,000 visits

Media Relations

- Over 100 media interviews
- 6 news conferences/scrumms
- Focus on safety & conservation

Assessment

- January 2014 vs. January 2013
- Potential for preparedness improvements
- Potential for response improvements



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