

Bonneville Power Administration

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March 2014

BPA Fast Facts

BPA Customers

Business Balancing Authorities	172	1937
Interstate Transmission Project (Circuit miles)	283	15,239
Substations	11,000	11W
Employees (ATE) n	4,500	175
Hourly Transmission Transactions		150,000/mo

Protection, Control & Communications

System Protection Asset Management System Controls

- Life cycle management capabilities center 160
EXTRA functionality of equipment is 8-13 years
Differentiated computer systems 135
3500 miles
- Digital compliance standards 1694
Cumulative radio installed equipment is beyond repair expected life
Sequential event recorders 157
- Increased number of total equipment 105
Digital fault recorders 26
Revenue meters (1340 locations) 1600
in the past Auxiliary eq. 635
PMUs 127

- What one thing did you want to gain from this conference?
 - What technical problem are you currently working on or see coming to the electrical utility industry?
 - How much time did you spend last week on that issue?
-

Here's What I See





F.ZHU APCH50382

76°

Temperature: 36.5°C
Dr. Feng Zhang 00:25

11878





Communication Network



Asset Management



Scheduling



SOC/NOC



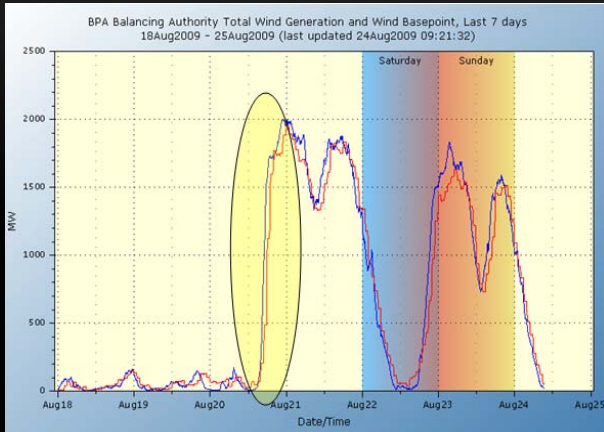
Dispatching



Protection & Control



Technology Changes



Wind Forecast



Line Shunts



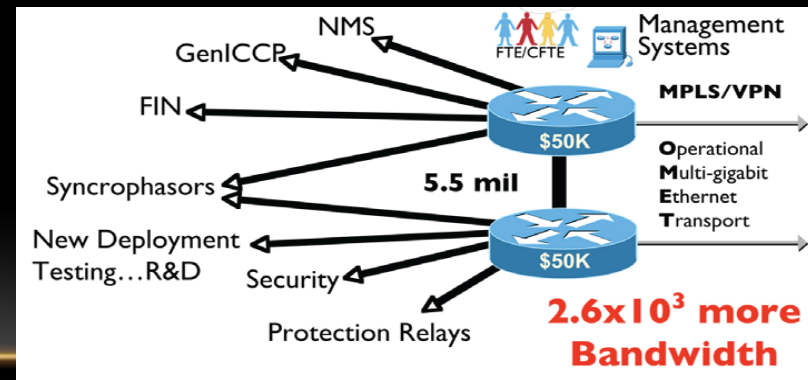
Synchrophasors



Fall Protection



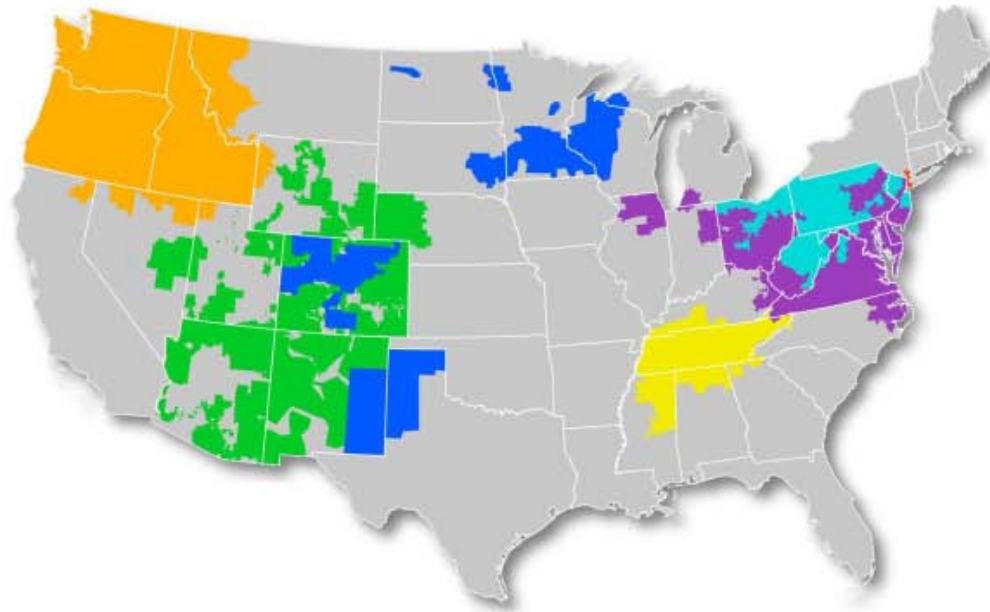
Earthquake Hardening



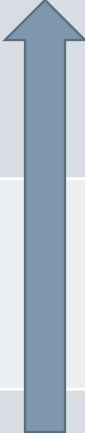
Telecommunications

Collaborative Transmission Technology Roadmap

www.bpa.gov/ti

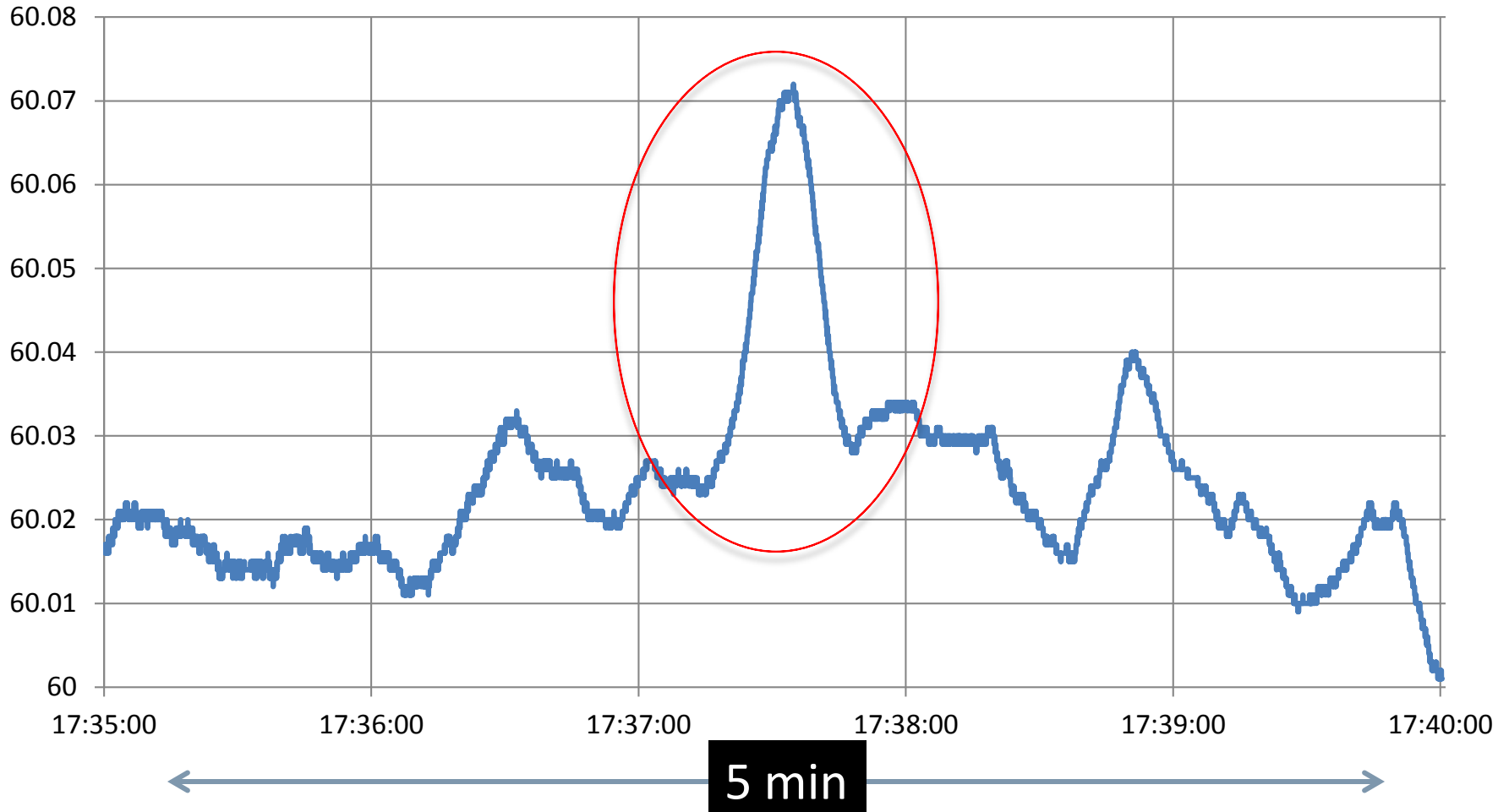


MATURITY LEVELS DEVELOPMENT AND ADOPTION

	Current State Assessment	Finding Real Time Limits	Optimizing RAS and control actions
Transient Stability Assessment	 X		
Voltage Stability Assessment			
Thermal overload, powerflow solution			

WECC SYSTEM FREQUENCY

SUNDAY - FEB 3, 2013



“Data will be the basis of competitive advantage going forward, calling it ‘the next natural resource.’

It will change how decisions are made, how value is created and how value is delivered.

Many more decisions will be based on predictive elements versus gut instincts.

In the near future, “your value will not be what you know, but what you share.”

- *Ginni Rometty*
CEO IBM, March 7, 2013
