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# ***ELECTRIC TRANSMISSION 101: Bulk Power System Reliability***

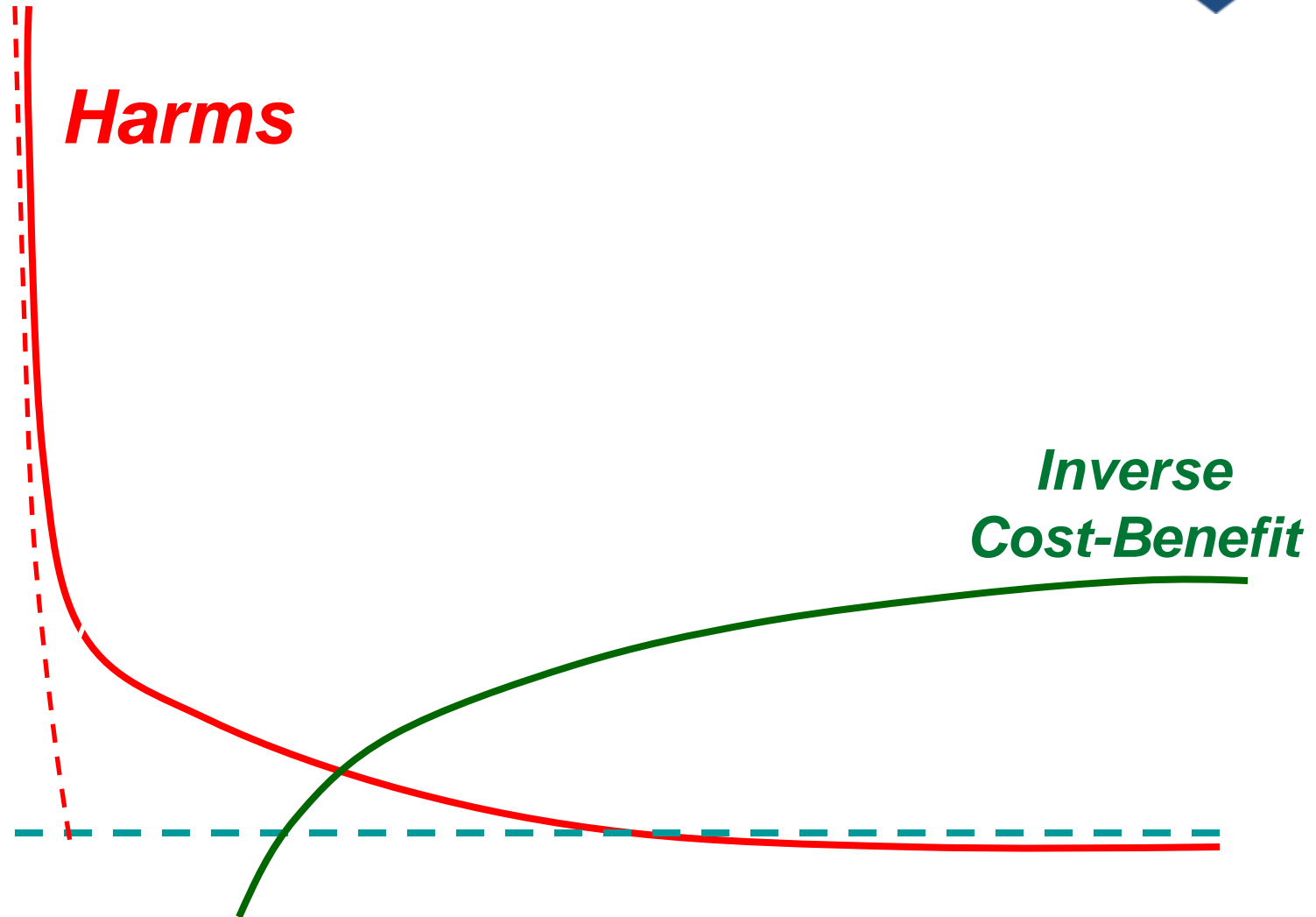
***David Cook***

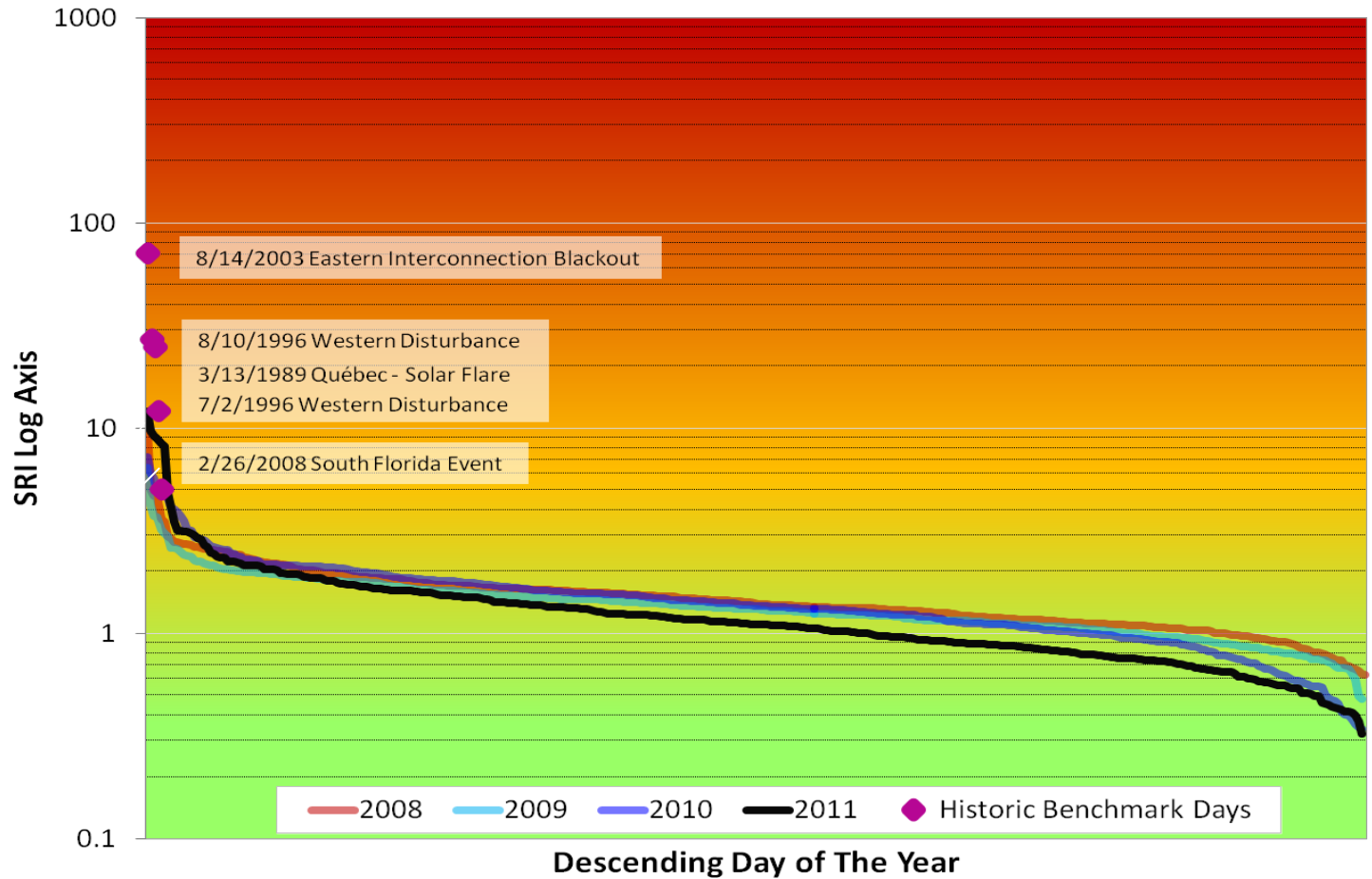
***Senior Counsel***

***North American Electric Reliability Corporation (NERC)***



- Meet all expected demand under normal conditions and reasonably foreseeable contingencies
- Maintain balance of generation and demand from second to second
- Plan and operate system so that all elements are within thermal and stability limits
- Plan and operate system so that loss of any element in the system results in remaining elements still being within thermal and stability limits (N-1)
- Protect equipment from physical damage when disturbances do occur, so system can be promptly restored





- Reliability – to address events and identifiable risks, thereby improving BPS reliability
- Assurance – to provide assurance to the public, industry, and government for the reliable performance of BPS
- Learning – to promote learning and continuous improvement of operations and adapt to lessons learned for improvement of BPS reliability
- Risk-based Approach – to focus attention, resources, and actions on issues most important to BPS reliability

- Developing and enforcing reliability standards
- Assessing seasonal and long-term reliability
- Maintaining system awareness of the bulk power system
- Analyzing disturbances and off-normal events
- Training and certifying industry personnel
- Operating ES-ISAC

- A private, nonprofit corporation, governed by an independent board of trustees, elected by the membership
- Ensure and improve the reliability of the bulk power system of North America
- Subject to oversight in U.S. by Federal Energy Regulatory Commission; comparable arrangements with regulatory authorities in Canada

- Investor-owned utilities
- State/municipal utilities
- Cooperative utilities
- Federal or provincial utilities/Federal PMAs
- Transmission-dependent utilities
- Merchant electricity generators
- Electricity marketers
- Large end-use electricity customers
- Small end-use electricity customers
- ISOs/RTOs
- Regional entities
- Government representatives