Railbelt Reliability Standards

Regulatory Commission of Alaska Public Meeting
October 11, 2017

History

The joint utility modification and adoption of modified NERC reliability standards dating back to 1985 has resulted in improved Railbelt reliability

- 1985 Alaska Intertie Operating committee edited and adopted North American Electric Reliability *Council* NERC "Operating Guides"
- 1991 -Alaska Systems Coordinating Council (ASCC) adopted IOC guides and added ASCC Planning Criteria
- NERC the voluntary "council" becomes NERC the mandatory "corporation" and the FERC recognized electric reliability organization (ERO) under 2005 Energy Policy Act
  - NERC the "corporation" re-writes operating and planning standards
- 2006 -Ad hoc Railbelt Reliability Committee begins editing process of revised NERC operating and planning standards

Reliability Coordination

The 2006 Railbelt utilities initiated an effort to update existing standards to the new revised NERC standards. This effort resulted in 2013 Standards that were adopted by the IMC (all utilities except HEA and Seward).

- Seward as an "all-requirements" customer of Chugach was covered under IMC standards
- HEA formed the single member Railbelt Reliability Organization (RRO) and adopted independent standards
- The effort included adoption of Open access rules for the Alaska Intertie Assets

2013-2017 RRO and IMC work to conform reliability standards such that IMC and RRO standards although independent are uniform.

- Size of spin requirement remains in standards
- Utility allocation, and geographic distribution to be determined by a study
- Updated planning and modeling standards are added
- Glossary is updated
- Interconnection protocols for non-intertie assets are responsibility of local utilities

2017 Standards

- The 2013-2017 effort resulted in the 2017 standards
- These were adopted by the IMC in October 2017
- Homer Electric is reviewing its conformed RRO standard for adoption

Adopted Standards

- Real Power Balancing Control Performance
- Disturbance Control Performance
- Frequency Response and Bias
- Time Error Correction
- Automatic Generation Control
- Inadvertent Interchange

Adopted Standards

- Planning Resource Adequacy Analysis, Assessment and Documentation
- Facility Connection Requirements
- Coordination of Plans for New Facilities
- Interchange Information
- Verification and Data Reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Power Capability
- Verification of Models and Data for Generator Excitation Control System or Plant Volt/VAR Control Functions

Adopted Standards

- Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions
- Total Transfer Capability
- Data for Power System Modeling and Analysis
- Steady-State and Dynamic System Model Validation
- Automatic Under-frequency Load Shedding
- Reserve Obligation

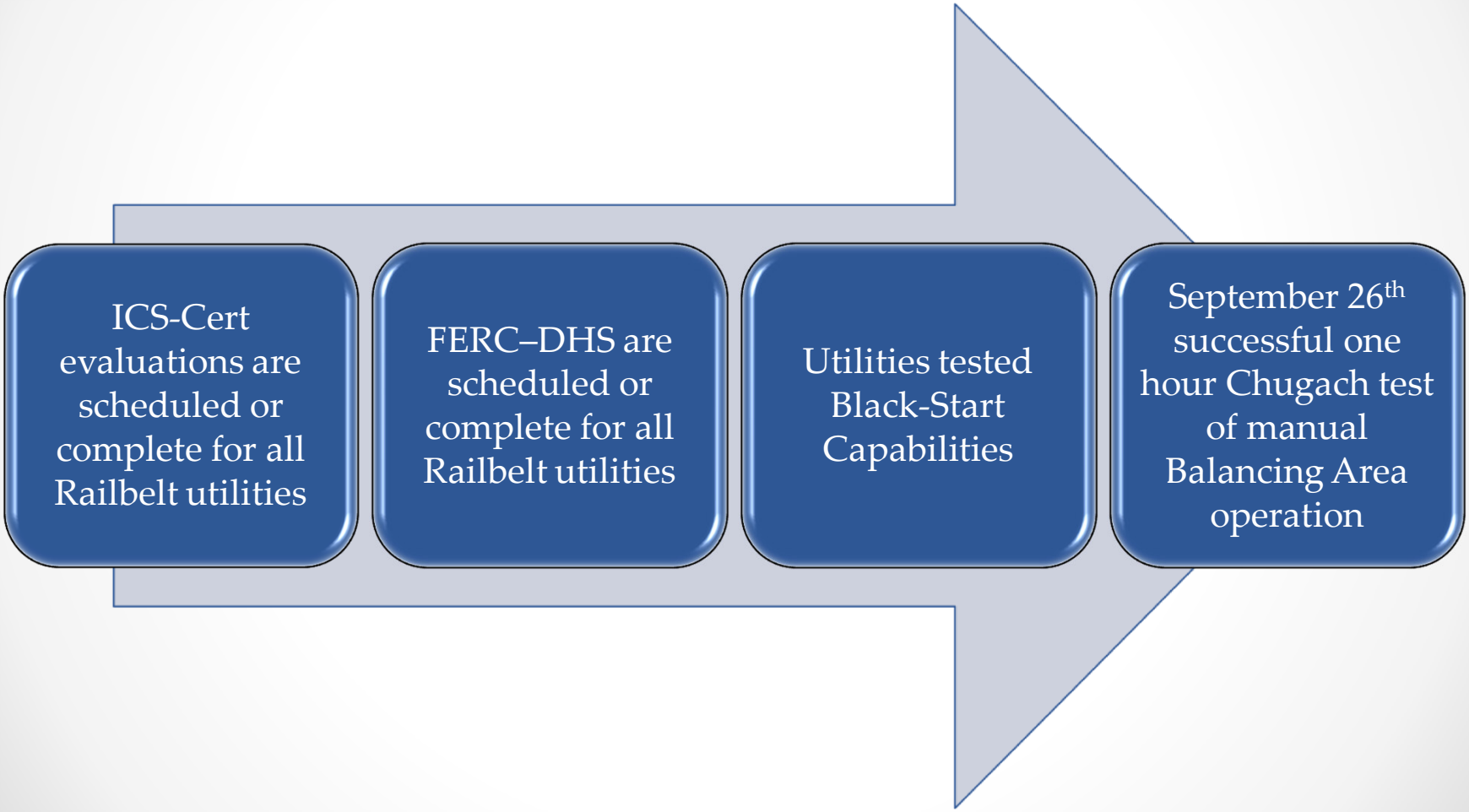
Adopted Standards

- System Performance Under Normal Conditions
- System Performance Following Loss of a Single BES Element and Likely Subsequent Contingencies
- System Performance Following Loss of Two or More BES Elements
- Voltage and Reactive Control
- Generator Operation for Maintaining Network Voltage Schedules

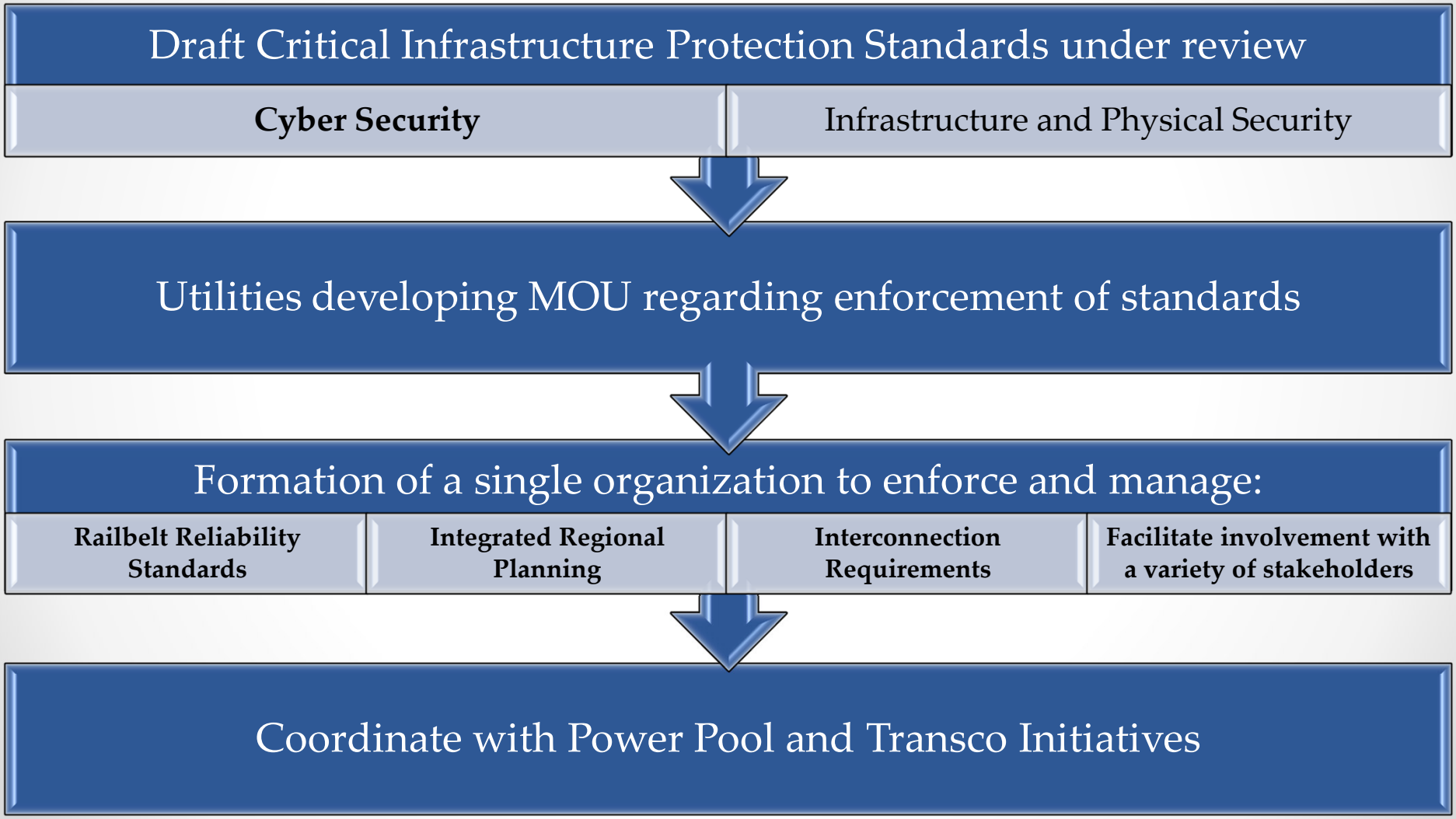
Appendices to Standards

Exhibit A:	Entity Functional Assignments
Exhibit B:	Railbelt Glossary of Terms
Exhibit C:	Sanctions Matrix
Exhibit D:	Railbelt Reliability Planning Guidelines
Exhibit E:	Railbelt Under Frequency Load Shed Scheme
Exhibit F:	ASCC Operating Guides – Interconnected Utilities – February 1992
Exhibit G:	ASCC Planning Criteria for Reliability of Interconnected Electric Utilities – May 1991

Other Reliability Efforts



Next Steps


Draft Critical Infrastructure Protection Standards under review
Cyber Security
Infrastructure and Physical Security
Utilities developing MOU regarding enforcement of standards
Formation of a single organization to enforce and manage:
Railbelt Reliability Standards
Integrated Regional Planning
Interconnection Requirements
Facilitate involvement with a variety of stakeholders
Coordinate with Power Pool and Transco Initiatives

Questions