

# Information Technology Applications Update

Stan Hoptroff, Vice President and Chief Technology Officer  
Standards Oversight and Technology Committee  
May 4, 2016

**RELIABILITY | ACCOUNTABILITY**



- Information Technology (IT) Strategy Overview
- ERO Enterprise IT Projects Update
- Electricity Information Sharing and Analysis Center (E-ISAC) IT Projects Update
- NERC Corporate IT Projects
- Priorities Looking Ahead
- Information Technology 2016 Budget - 2017 Forecast
- 2016-2018 Technology Spend Plans & Projections

- Disciplined approach to IT investment with a focus on desired business outcomes
- Execute four complimentary roadmaps:
  1. Collaboration and Information Sharing
  2. Data and Analytics
  3. Standards and Compliance – Compliance Monitoring and Enforcement Program (CMEP) Technology
  4. Entity Information and Communication

- Focus on three clients:
  1. ERO Enterprise Applications
    - Supporting both NERC and Regional Entity operations
  2. E-ISAC
  3. NERC Internal IT needs

- Misoperation Data Capture
  - 1600 Data Request
- User Management and Registration
  - Improve client experience, reduce complexity, and reduce support risk
- Enterprise Reporting – Generation Data
  - Enable ERO data access and analysis
- Generating Availability Data System – Wind Turbine Generation
  - 1600 Data Request
- Events Analysis – 2016 Enhancement

- E-ISAC Network Segmentation
  - Implementation of controls in support of separation protocol
- E-ISAC Portal Enhancements and Support
  - Electricity Sector Coordinating Council requested features and improvements
- Cybersecurity Risk Information Sharing Program (CRISP) Data Management Tools Evaluation & Support
  - Supported by NERC IT
- E-ISAC Cybersecurity Automation
  - Implementation of Machine-to-Machine communications pilot (STIX/TAXII)

- Document Management Program
  - Document control, retention, security, and collaboration
- Audio/Visual (A/V) Program
  - Ease of use, security, reliability, and reduced travel
- Information Security
  - Email Encryption
  - Network Architecture update

- Registration Application
- CMEP Application
- Alerts and Notifications Application
- Public Website Enhancements
- E-ISAC Portal Enhancements
- E-ISAC Cybersecurity Automation
  - Implementation of Machine-to-Machine communications pilot (STIX/TAXII)



	(\$000's)			
<b>Information Technology Budget</b>	<b>2016</b>		<b>2017*</b>	
Contracts and Consultants	\$	2,095	\$	2,213
Office Costs (maintenance and supplies only)		1,545		1,868
Fixed Assets (capital expenditures)		3,811		3,372
	\$	7,451	\$	7,453
Personnel	\$	3,916	\$	4,257
Meetings, Travel and conferencing Expenses		95		74
Office Costs (excluding maintenance and supplies)		695		707
<b>Total Information Technology Budget</b>	<b>\$</b>	<b>12,157</b>	<b>\$</b>	<b>12,491</b>

**\*NOTE: The 2017 Budget is not final and is subject to change until approved by the NERC Board of Trustees on August 10, 2016**

- Project costs:
  - ERO Enterprise New Functionality – \$1.4M
  - E-ISAC Portal – \$400k <sup>1</sup>
  - E-ISAC Cybersecurity Automation Pilot (STIX/TAXII) – \$250k <sup>1</sup>
  - E-ISAC & CRISP Analysis Tools – \$200k
  - NERC New Functionality (Document Management) – \$465k
- Ongoing support costs:
  - ERO Enterprise Infrastructure & Support – \$3M
  - NERC Infrastructure & Support – \$2M

<sup>1</sup> Will require use of 2016 reserves

- Project costs:
  - ERO Enterprise New Functionality – \$1.5M
  - E-ISAC Portal – \$250k <sup>1</sup>
  - E-ISAC Cybersecurity Automation (STIX/TAXII) – \$125k <sup>2</sup>
  - E-ISAC & CRISP Analysis Tools – \$300k
  - NERC New Functionality (Document Management) – \$335k
- Ongoing support costs:
  - ERO Enterprise Infrastructure & Support – \$3.1M
  - NERC Infrastructure & Support – \$2.4M <sup>3</sup>

<sup>1</sup> Additional \$750k portal improvements will be presented in initial 2017 budget

<sup>2</sup> NERC cost only, participants will self-fund

<sup>3</sup> Includes \$545k A/V cost

- Project costs:
  - ERO Enterprise New Functionality – \$2M
  - E-ISAC Portal – \$250k
  - E-ISAC Cybersecurity Automation (STIX/TAXII) – \$125k
  - E-ISAC & CRISP Analysis Tools – \$300k
- Ongoing Support:
  - ERO Enterprise Infrastructure & Support – \$3.1M
  - NERC Infrastructure & Support – \$2.2M<sup>1</sup>

<sup>1</sup> Includes \$545k A/V cost



# Questions and Answers

# NERC

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# Registered Ballot Body

## Annual Self-Selection Process

Howard Gugel, Director of Standards  
Standards Oversight and Technology Committee  
May 4, 2016

**RELIABILITY | ACCOUNTABILITY**



- Obligations
- Procedure
- Timeline

- Reliability Standards must be approved by Registered Ballot Body (RBB)
- RBB criteria in Appendix 3D
  - Entity must self-select Segment when registering
  - Entity must self-select Segment annually
  - NERC General Counsel will review all applications
  - Entity or individual is then “credentialed”



- Entity
  - Establish username in Standards Balloting and Commenting System (SBS)
  - Self-select the appropriate segment
  - Provide sufficient supporting evidence
- NERC staff
  - Standards staff reviews self-selection for completeness
  - Standards staff provide initial recommendation to Legal staff
  - Legal staff provides final determination
  - Standards staff provides notification

- RBB participants submit self-selections
  - With attestation if nothing has changed
  - With supporting evidence for selection of any new segments
  - With evidence that it provided reliability services to entities in selected segment within the past 12 months if entity is Consultant or Vendor

- NERC staff notifies industry of self-selection requirement
- NERC staff provides notification if additional information needed
- Legal staff makes final determination
- NERC staff communicates decision with RBB participant

- May
  - Initial notification of annual self-selection
- July
  - Entity submission of annual self-selection
  - If entity fails to submit, they may be suspended from ballot pools
- Entity notified of results within 45 days of submission



# Questions and Answers

**NERC**

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# Reliability Standards Quarterly Status Report

Howard Gugel, Director of Standards  
Standards Oversight and Technology Committee Meeting  
May 4, 2016

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**Table 4: Summary of Total Directives**

	<b>Pre-2013 Directives*</b>	<b>Post 2012 Directives*</b>	<b>Total</b>
Issued prior to year-end 2012	191		
Issued since year-end 2012		64	
Resolved as of December 31, 2015	176	48	
Remaining	15	16	31

\*Does not include directives for other NERC departments

	<b>Current Status</b>	<b>P81 and IERP Recommendations for Retirement</b>
Total*		281
Addressed	238	
In current projects	35	
Not assigned	8	

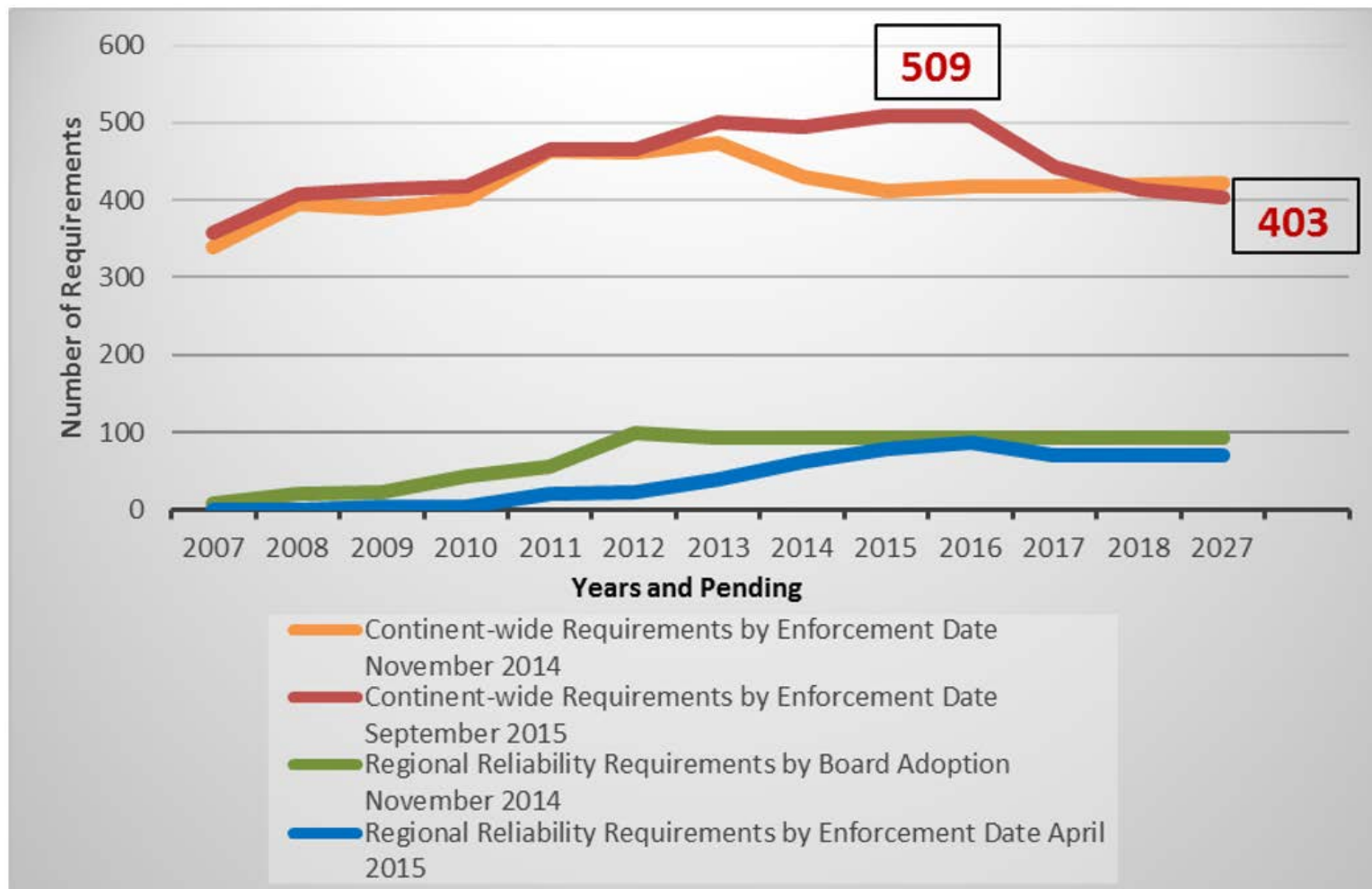
\*Unique requirements



<b>Resolution</b>	<b>Number</b>	<b>Percent</b>
Retired	110	46%
Modified	103	43%
Retained	25	11%
<b>Total</b>	<b>238</b>	

- May (3 planned)
- August (2 planned)
- November (1 planned)
- February 2017 (2 planned)

# Trend for Number of Requirements



- Progress on Standards metric (grading)
- Compliance Guidance and Section 11 of the Standard Processes Manual



# Questions and Answers