

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

Agenda Item 2  
Finance and Audit Committee Meeting  
August 9, 2017

# ERO Enterprise CMERP Application Update

Stan Hoptroff, Vice President, Chief Technology Officer and Director of  
Information Technology  
Finance and Audit Committee Meeting  
August 9, 2017

**RELIABILITY | ACCOUNTABILITY**



- Benefits
- Alignment with corporate goals
- Options considered
- Financial projections
- Program Governance
- Risk mitigation and project management
- Next steps

- Single, common portal for registered entities, enabling consistency of experience
- Real-time access to information, eliminating delays and manual communications
- Improved capability to support the Risk-Based Compliance Oversight Framework
- Enhanced quality assurance and oversight, enabling consistent application of the CMEP
- Improved analytics, including visibility into compliance and reliability risks

- Increased capability to implement audit best practices and processes (planning, fieldwork, reporting, quality assurance)
- Standardization and implementation of common business processes and workflows, enabling increased productivity (estimated 15 percent gain for ERO Enterprise CMEP staff)
- Reduced application costs across the ERO Enterprise (reduce current costs by roughly 29 percent, \$320k annual savings)
- Projected investment break-even within five years

- Supports three key ERO Enterprise Goals
  - Risk Informed CMEP (Goal 2)
  - Reduction of Known Risks to Reliability (Goal 3)
  - Effective and Efficient Operations (Goal 6)
    - Consistency
    - Productivity
    - Security
    - Financial – Drives efficiencies required to achieve flat, inflationary budgets
- Tactical – Supports management of increasingly complex workload (Critical Infrastructure Protection)

- Implement common ERO Enterprise solution – Supports ERO strategic goals (recommended option)
- Maintain status quo – Will not meet future business requirements
- Regions implement individual, new systems of their choosing – More costly than a common system, inconsistent with ERO Enterprise strategic direction

- Unanimous support from all Regional CEOs for Enterprise Option
- Regional Entities deferred investments in lieu of the Enterprise option
- Enterprise option meets strategic goals within constraints

- Estimated Capital Investment: \$5.1M, completing in 2020
- Estimated Annual Operating Costs: \$780k per year
- Estimated average productivity gains for approximately 200 ERO Enterprise staff: ~15 percent in 2022 and beyond
- Estimated point where benefits exceed costs: End of Year 2021



- Project Executive Committee – Gerry Cauley, Lane Lanford, Tim Gallagher, Ed Schwerdt, Dan Skaar, Stan Hoptroff
- Project Steering Committee – Dan Skaar (Chair), Dave Godfrey, Bob Wargo, Linda Campbell, Jim Albright, Napoleon Johnson, Stan Kopman, Sonia Mendonca, Ken McIntyre, Andrea Koch
- Stakeholder Groups – Compliance and Certification Committee (CCC), Member Representatives Committee (MRC), etc. (guidance and validation)
- Subject Matter Expert Groups – As needed
- Architecture Team
- ERO PMO

- Project team supported by nationally recognized consultant with experience with both ERO Enterprise and CMEP-type software solutions
- ERO Enterprise leadership Technology Leadership Team (TLT) approval
- Monthly project financial reviews
- Tollgates at each phase to review status and issues: (Analyze, Design, Develop, Test, Deploy)
- Ongoing updates provided to TLT and Standards Oversight and Technology Committee (SOTC)

- August/September/October 2017 - Continued stakeholder outreach and education - CCC, MRC, and Business Plan and Budget Input Group
- Vendor RFP and preparation of final business case - Sept/October 2017
- Final Briefings - SOTC, Board of Trustees (Board) Compliance Committee, Finance and Audit Committee meetings - October/Nov 2017
- Board Approval - Nov 2017
- Vendor Selection - Late Q4 2017/Early Q1 2018



# Questions and Answers

# NERC

## Summary of Unaudited Results

### June 30, 2017

Scott Jones, Vice President of Finance  
Finance and Audit Committee Meeting  
August 9, 2017

**RELIABILITY | ACCOUNTABILITY**



- NERC was 7.3% (\$2.6M) under budget, including CRISP
  - Personnel expenses on budget
  - Meetings and travel expenses over budget 4.8% (\$81k)
  - Contracts expenses under budget 14.4% (\$966k)
  - Office Costs and Professional Services under budget 3.5% (\$120k)
  - Capital expenditures under budget 66.3% (\$1.4M)

- NERC projecting to be 1.3% (\$898k) over budget for costs
  - Personnel expenses approximately on budget (0.3%)
  - Contracts expenses over budget 9.5% (\$1.3M)
  - Office Costs and Professional Services over budget 3.0% (\$207k)
  - Capital expenditures under budget 17.5% (\$765k)
- NERC projecting to be 0.6% (\$426k) over budget for funding
  - Primarily related to additional CRISP funding
- Net impact of cost and funding projections is 0.7% (\$472k) above budget

- Future Obligation Reserve - \$2.2M
- System Operator Reserve - \$623k
- CRISP Reserve - \$500k
- Assessment Stabilization Reserve - \$1.7M
- Operating Contingency Reserve - \$2.9M
  - Over budget projection implies reduction of operating reserves
  - Other factors impact reserves as well (financing proceeds, non-cash expenses, other reserve funding)





# Questions and Answers

# Combined ERO Enterprise Summary of Unaudited Results June 30, 2017

Scott Jones, Vice President of Finance  
Finance and Audit Committee Meeting  
August 9, 2017

**RELIABILITY | ACCOUNTABILITY**



- Combined ERO Enterprise was under budget 5.6% (\$5.3M)
- NERC and all Regions are at or below budget
  - NERC (-7.3%) – lower consulting and fixed asset expenses
  - FRCC (-4.3%) – lower operating and fixed asset expenses
  - NPCC (-6.8%) – lower personnel, meeting, travel, and operating expenses
  - SPP RE (-5.7%) – lower personnel, travel, and indirect expenses
  - TRE (-6.6%) – lower personnel, travel, and operating expenses
  - WECC (-9.3%) – lower personnel, meeting, and consulting expenses
  - MRO, RF, and SERC were at or slightly over/under budget
- Combined ERO Enterprise was 4.5% under budget on FTEs

- Combined ERO Enterprise projects to be 0.1% under budget
  - NERC and most REs expect to be close to budget
  - SPP RE projects to be 3.7% under budget due primarily to lower personnel and travel costs
- Combined ERO Enterprise projected year-end FTEs is 1.6% under budget

- \$36.7M – Total reserves at beginning of 2017
  - Started \$6.2M over combined budgets
- \$52.4M – Total reserves as of June 30, 2017
  - Added another \$4.6M in unanticipated reserves through Q2
  - Now \$10.8M above expectations (ERO budget was \$41.6M)
- \$29.9M – Year-End Projection for 2017
  - Ending \$6.3M more than combined 2017 budgets
- Based on Q2 projections, variances between reserve balances (budgeted vs actual) continue to trend down



# Questions and Answers

# NERC 2018 Business Plan and Budget Final Draft

Scott Jones, Vice President of Finance  
Finance and Audit Committee Meeting  
August 9, 2017

**RELIABILITY | ACCOUNTABILITY**



- Budget and strategy alignment
- Analytical capabilities
- E-ISAC – Implementation of long-term strategy
- CMEP technology program
- Standards review and cost effectiveness
- Employee development and training
- Resource allocation and efficiency of operations



- Updates from Draft 1 to Draft 2
  - Added costs related to E-ISAC Long-Term Strategy
  - Personnel costs and assumptions
    - FTEs increased by 6 for E-ISAC Long-Term Strategy (including one in CRISP)
  - Other costs remain close to Draft 1, with minor adjustments
- Updates from Draft 2 to Final
  - No financial impacts
  - Minor wording updates

- Total NERC before additional E-ISAC long-term strategy
  - Base case budget increase unchanged at 2.5%
  - Assessment base case increase unchanged at 3.3%
- Total NERC with additional E-ISAC long-term strategy costs
  - Adds another 2.6% to total budget increase
    - 5.1% overall increase
  - Adds another 1.8% to assessment increase
    - 5.1% overall increase
    - Includes release of \$600k in Assessment Stabilization Reserves
- CRISP
  - Finalizing budget with Battelle and participants
  - Anticipate minimal changes between 2017 and 2018

NERC overall budget increase at 5.1%  
for expenses and capital expenditures

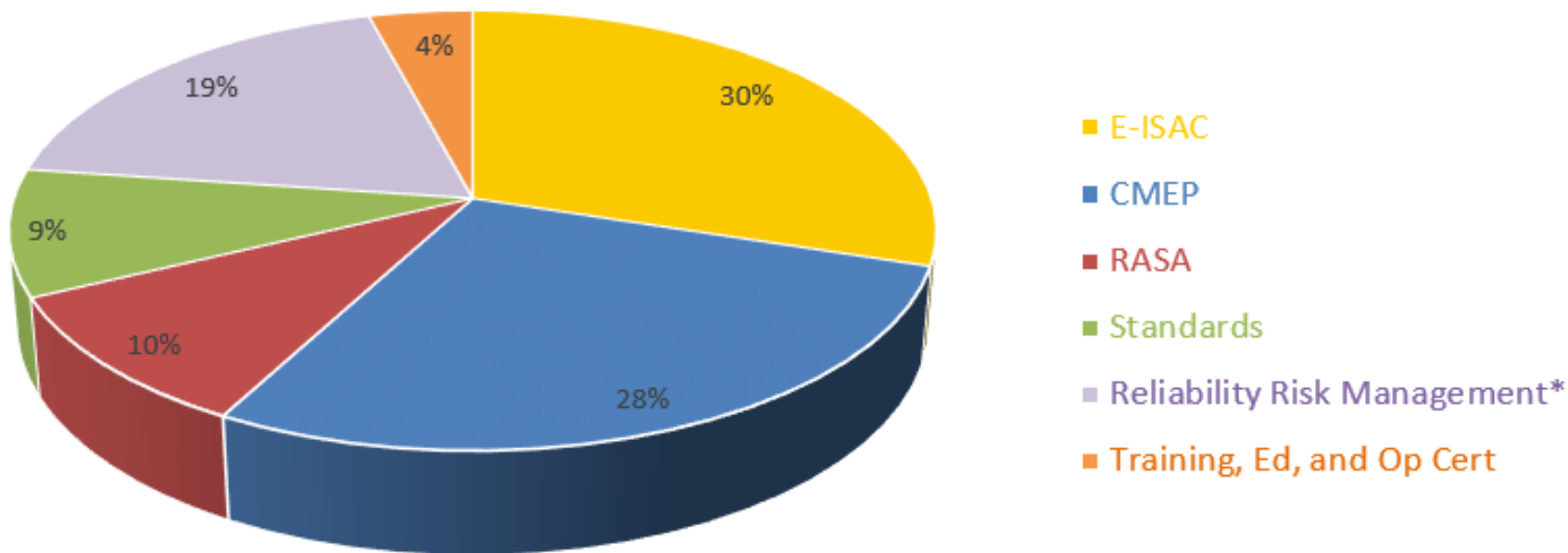
EXPENSES and FIXED ASSETS (CAPITAL)	2017	2018	Change	
			\$	%
Compliance Monitoring and Enforcement Programs*	\$ 17,305,535	\$ 20,465,126	\$ 3,159,591	18.3%
Reliability Risk Management	14,387,923	13,641,560	(746,363)	-5.2%
Standards	8,100,282	6,821,893	(1,278,389)	-15.8%
Reliability Assessments and System Analysis	7,535,594	7,312,956	(222,638)	-3.0%
Training, Education and Operator Certification	3,757,501	3,043,024	(714,477)	-19.0%
<b>Programs (excluding E-ISAC)</b>	<b>\$ 51,086,835</b>	<b>\$ 51,284,559</b>	<b>\$ 197,724</b>	<b>0.4%</b>
E-ISAC (without CRISP)	\$ 10,222,900	\$ 13,130,686	\$ 2,907,785	28.4%
CRISP - assessment funded	1,301,923	1,389,159	87,236	6.7%
CRISP - participant funded	6,990,517	7,330,753	340,236	4.9%
<b>E-ISAC</b>	<b>\$ 18,515,341</b>	<b>\$ 21,850,597</b>	<b>\$ 3,335,256</b>	<b>18.0%</b>
<b>TOTAL EXPENSES and FIXED ASSETS (CAPITAL)</b>	<b>\$ 69,602,175</b>	<b>\$ 73,135,156</b>	<b>\$ 3,532,981</b>	<b>5.1%</b>

\*Includes Entity Registration and CMEP Tool Development

NERC overall average assessment increase at 5.1%  
for expenses and capital expenditures

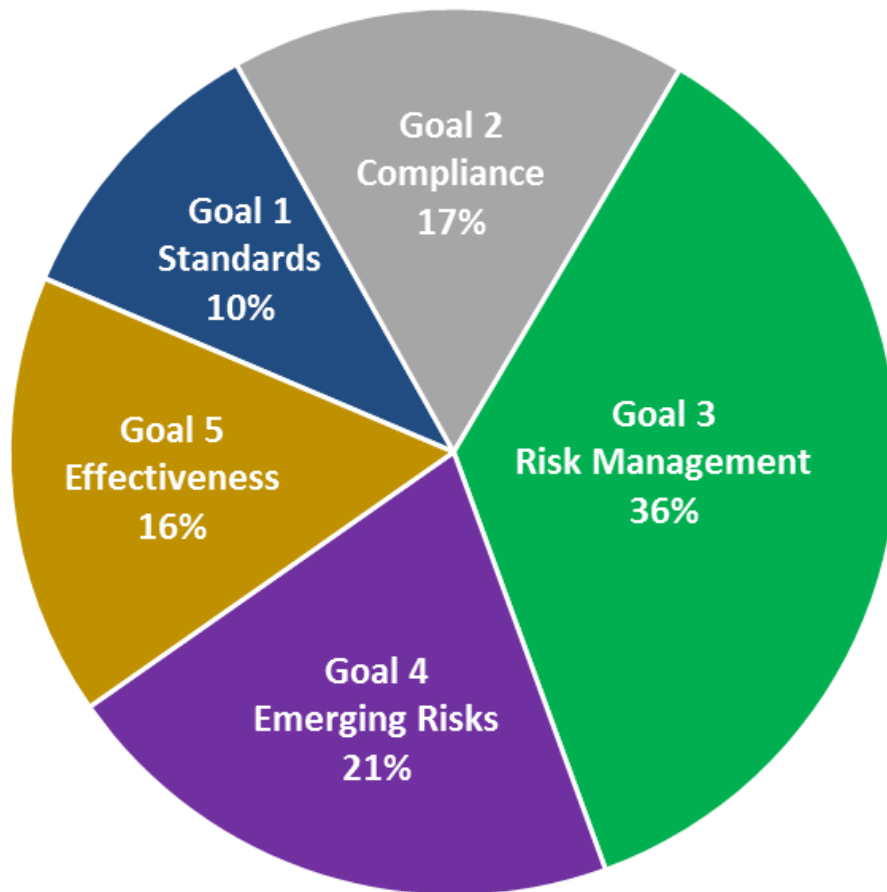
FUNDING	2017	2018	Change	
			\$	%
<b>Assessments</b>				
Program Areas	\$ 58,580,633	\$ 61,565,201	\$ 2,984,568	5.1%
CRISP	1,275,681	1,371,768	96,087	7.5%
<b>Total assessments</b>	\$ 59,856,314	\$ 62,936,968	\$ 3,080,655	<b>5.1%</b>
<b>Assessment Stabilization Releases</b>				
Assessment Stabilization Releases	\$ 1,100,000	\$ 600,000	\$ (500,000)	-45.5%
CRISP Participant Funding	6,990,517	7,330,753	340,236	4.9%
Other revenues	2,204,830	2,113,500	(91,330)	-4.1%
<b>Other funding</b>	\$ 10,295,347	\$ 10,044,253	\$ (251,094)	-2.4%
<b>TOTAL FUNDING</b>	\$ 70,151,660	\$ 72,981,221	\$ 2,829,561	<b>4.0%</b>

## NERC 2018 Budget By Program Area



\*Includes Performance Analysis, Event Analysis and Situation Awareness

## NERC Resource Allocation to Strategic Goal Areas



- Goal is to better align budget increases, assessment requirements, and billed assessments
- 2018 average assessment increase lowered from 6.1% to 5.1%
  - Release of \$600k lowers U.S. assessments specifically
- 2019 assessment increase is ~ 8.9%
  - Intersection of several major projects, so NERC will be working to lower this before 2019 budget
  - No assumption of reserve usage, but will have funds available to offset
- 2020 assessment increase is ~ 4.0%
  - Includes continuation of E-ISAC strategy
- Actual budget increases and use of reserves determined annually

- Assessment Stabilization Reserve projected at \$2,171,000 for January 1, 2018
  - Releasing \$1,100,000 in 2017 to offset U.S. assessments
  - Received \$500,000 penalty funds in May 2017
  - 2018 Final Draft using \$600,000 in 2018 to offset U.S. assessments
- Assuming no additional penalty receipts, projected Assessment Stabilization Reserve at the end of 2018 is \$1,571,000



- Future Obligation Reserves - \$1.8M
- Operating Contingency Reserve - \$3.0M
- System Operator Certification Reserve - \$700k
- CRISP Reserve - \$500k
  - Funded by participants, subject to final budget negotiation

- Total NERC Assessment Increase – 5.1%
  - U.S. Increase – 4.9%
    - Net of \$600K ASR release
  - Canadian increase ranges from 3.5% to 12.2% (average of 8.1%)
    - Compliance Credits & True Ups
  - Mexico Increase – 7.2%
    - Increase larger than normal due to NEL growth relative to others

# Total Canadian Assessments

	% Change - 2018 v 2017			\$ Change - 2018 v 2017		
	Total Assessment	RE Assessment	NERC Assessment	Total Assessment	RE Assessment	NERC Assessment
AESO	1.5%	-1.1%	6.2%	\$ 22,678	\$ (11,264)	\$ 33,942
IESO	6.6%	3.1%	12.2%	211,373	62,996	148,377
New Brunswick	2.1%	-0.7%	8.4%	8,622	(1,907)	10,529
Quebec	6.9%	5.8%	8.6%	319,473	164,723	154,750
Nova Scotia	3.0%	2.6%	3.5%	11,537	6,150	5,387
Manitoba Hydro	1.3%	0.2%	4.5%	16,130	1,503	14,627
SaskPower	2.4%	1.2%	5.5%	28,879	10,658	18,221
British Columbia Hydro	5.9%	6.1%	5.3%	168,125	122,609	45,516
<b>Total Canada</b>	<b>5.1%</b>	<b>3.5%</b>	<b>8.1%</b>	<b>\$ 786,817</b>	<b>\$ 355,468</b>	<b>\$ 431,349</b>

- NERC continues to work with Mexican representatives on both operational and financial issues
- Recent meetings in late May kicked off joint leadership Steering Group and program area working groups
- Discussions with financial counterparts ongoing, anticipate greater funding from Mexico in 2018
  - Likely phased-in approach recognizing the gradual integration of activities
  - Uncertain on timing, potential for supplemental assessment filing



# Questions and Answers

# ERO Enterprise Combined 2018 Budgets and Assessments

Scott Jones, Vice President of Finance  
Finance and Audit Committee Meeting  
August 9, 2017

**RELIABILITY | ACCOUNTABILITY**



# 2017 vs 2018 Budgeted Expenses

(\$000's)

Entity	2017	% of Total ERO Budget	2018	% of Total ERO Budget	% Change
NERC	\$ 69,602	36.3%	\$ 73,135	37.0%	5.1%
FRCC	7,178	3.7%	7,514	3.8%	4.7%
MRO	11,227	5.9%	11,727	5.9%	4.5%
NPCC	15,147	7.9%	15,107	7.6%	-0.3%
RF	19,909	10.4%	21,394	10.8%	7.5%
SERC	17,482	9.1%	17,183	8.7%	-1.7%
SPP RE	10,866	5.7%	10,793	5.5%	-0.7%
TRE	12,167	6.4%	12,657	6.4%	4.0%
WECC	26,797	14.0%	27,097	13.7%	1.1%
WIRAB	1,229	0.6%	1,068	0.5%	-13.1%
	<b>\$ 191,604</b>	<b>100.0%</b>	<b>\$ 197,675</b>	<b>100.0%</b>	<b>3.2%</b>

Entity	Change			
	2017	2018	2018 v 2017	% Change
NERC	\$ 59,856	\$ 62,937	\$ 3,081	5.1%
FRCC	6,164	6,661	497	8.1%
MRO	10,494	10,730	236	2.2%
NPCC	14,255	14,342	87	0.6%
RF	19,561	20,148	587	3.0%
SERC	15,706	17,205	1,499	9.5%
SPP	9,093	9,727	635	7.0%
TRE	9,595	11,272	1,677	17.5%
WECC	25,282	25,282	0	0.0%
WIRAB	901	711	-190	-21.1%
<b>TOTAL ERO ENTERPRISE</b>	<b>\$ 170,908</b>	<b>\$ 179,014</b>	<b>\$ 8,106</b>	<b>4.7%</b>



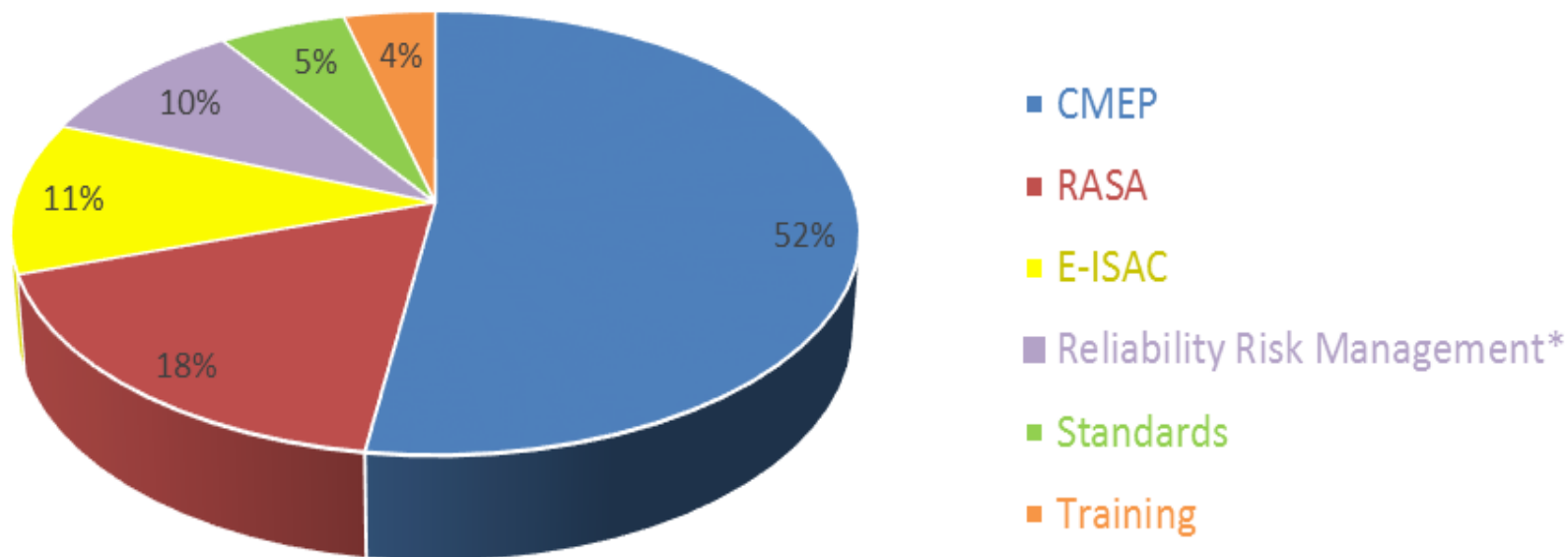
# Change in Total ERO Enterprise Assessments (by Region)

<b>REGION</b>	<b>% Change 2016 v 2015</b>	<b>% Change 2017 v 2016</b>	<b>% Change 2018 v 2017</b>
FRCC	7.6%	-2.0%	6.9%
MRO	11.8%	-2.1%	3.6%
NPCC	1.3%	1.0%	2.6%
RF	3.3%	1.8%	3.9%
SERC	2.1%	10.0%	7.3%
SPP RE	-6.5%	4.5%	6.7%
TRE	-4.6%	2.5%	13.8%
WECC	1.1%	1.4%	0.6%
<b>Total \$ Change</b>	<b>\$ 2,977,758</b>	<b>\$ 4,399,595</b>	<b>\$ 8,106,719</b>
<b>Total % Change</b>	<b>1.8%</b>	<b>2.6%</b>	<b>4.7%</b>

*Note: NERC assessments are allocated to each Regional Entity using NEL data. For purposes of this table, NERC assessments were allocated using the 2016 data.*

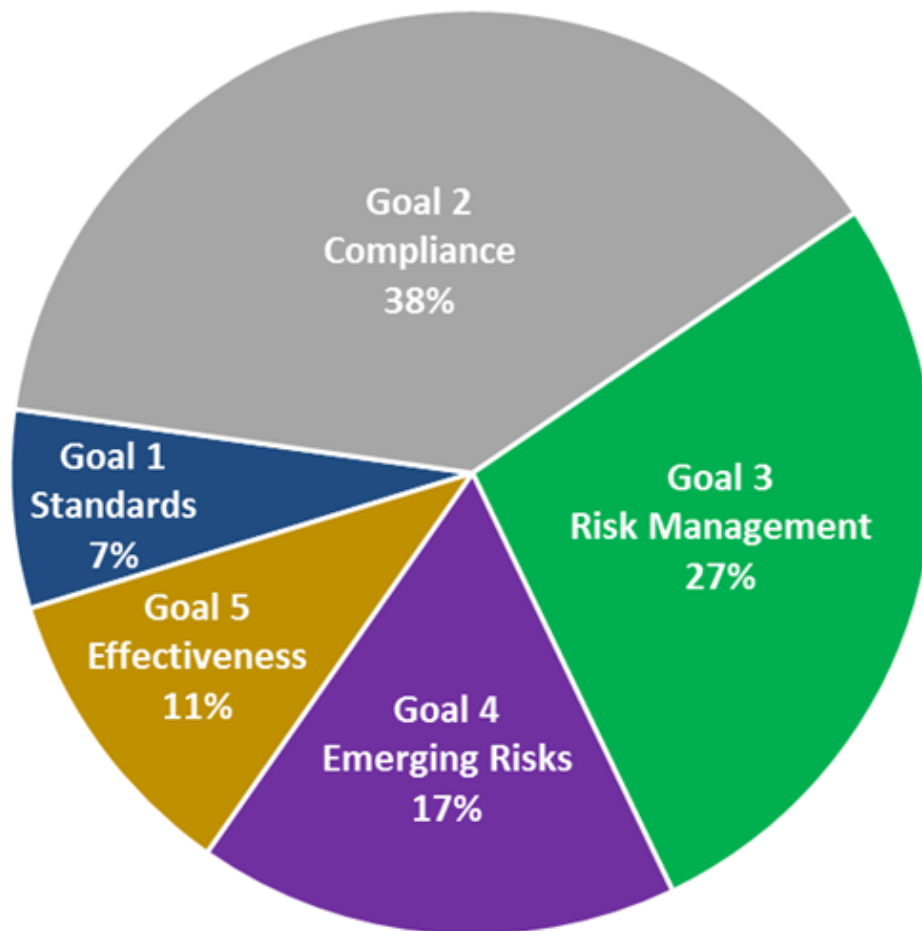
- NERC and Regional Entity resource requirements and budgets
- Year-End reserve levels
  - Surplus reserves
  - Reserves from prior years that can be applied
- Penalty funds and stabilization reserves (U.S. only)
  - Loss of one time offsets applied in prior year
  - New penalty funds available
- Year to year NEL (Net Energy for Load) variations
- Application and true-up of certain Canadian credits

## Total ERO Enterprise 2018 Budget By Program Area



\*For NERC Includes Performance Analysis, Event Analysis and Situation Awareness  
For Regions includes Situation Awareness

## ERO Enterprise Resource Allocation to Strategic Goal Areas





# Questions and Answers