NPCC Entity Risk Assessment

Inherent Risk Assessments (IRA)

Internal Controls Evaluations (ICE)
Agenda

- Where did we leave off?
- NERC Assessment
- Workplan and Status
- More Lessons Learned
  - Process improvements
  - Tool improvements
- FAQs – CIP, MRRE, ICE vs. Self Logging
- Where Do We Go From Here?
2015 Spring Workshop

• ERA formed in January 2015; developed ERA Program Document, website, forms and reference documents

• Website is informative: ERA Program document; Self-Service to forms - IRA update and blank ICE for GO/GOP; Past Workshop presentations; Risk Elements/Focus Areas; Examples and FAQs

• 1st implementation of IRA and ICE to select 2015 audited entities

• Upcoming (at the time) NERC Assessment of Risk-based CMEP.
ERA

- Earned Run Average
- Equal Rights Amendment
- Emergency Roadside Assistance
- Employee Reserve Account
- Electronic Research Administration
- Education Reform Act
- Embedded Remote Access
- Early Retirement Age
- Entity Risk Assessment (group)
IRA

- Irish Republican Army
- Inherited Runs Allowed
- International Racing Association
- Internet Routing Address
- Independent Research Agency
- Interim Remedial Action
- Individual Retirement Account
- Inherent Risk Assessment
ICE

- Internal Combustion Engine
- Industrial Control Equipment
- In Case of Emergency
- Instrumentation and Control Engineering
- In Car Entertainment
- Internal Compiler Error
- Independent Cost Estimate
- Integrity Commitment Excellence
- **Internal Controls Evaluation**
NERC Assessment:

- NERC IRA Guide and ICE Guide posted 4th Quarter 2014
- Each Regional Entity expected to begin implementation.
- IRA and ICE guides have twenty three (23) IRA and fifteen (15) ICE evaluation criteria.

May/June 2015

- NERC Assessment Team
  - One week onsite
  - Alignment and implementation of IRA and ICE
  - Confidential Report - “Fully Aligned” with all 38 criteria.
FERC November 4, 2015 Order

FERC has directed NERC to provide the results of its initial phase 1 assessment and other oversight activities related to RAI in its annual report. Of note, FERC stated that “NERC should provide its assessment of the Regional Entities’ consistency in the implementation of risk-based CMEP, including a description of any inconsistencies found in Regional Entities’ risk-based process documentation and application, and how such inconsistencies were or will be resolved.”
NERC Exit Briefing – NPCC’s “Better Practices”

• Public access to high-level procedures for IRA and ICE
• Internal processes and tools to promote consistency:
  • NPCC Compliance Instructions specific to conducting IRA and ICE.
  • Use of Rationale Codes for consistent justification for **Inclusion** and **Exclusion** of standards in entity’s preliminary scope of monitoring
• Scope of Monitoring Engagement (SoME) form has good rigor, is adaptable to changes, very usable output to the Compliance Audits Group.
NERC Exit Briefing – NPCC’s “Better Practices”

• Open communication channel with registered entities and action on feedback from registered entities
• Provided link between internal control objective and reliability standard
• Flexibility with registered entity on providing information for ICE
NERC Assessment – Opportunities for Enhancement

• NPCC formalize risk-based plan to complete initial, baseline IRAs for all registered entities in their footprint.
• NPCC should map IRA risk factors to NERC and NPCC Reliability Standards.
• Document the frequency at which IRAs will be re-performed in the absence of a triggering event.
Frequently Asked Question

Q: Hey, I see my company listed on the 2016 Audit Schedule but there’s no audit date. Why is that?

A: This is a departure from previous audit scheduling practices. Risk-based CMEP uses the IRA to determine a preliminary scope and allows you to opt in/out of ICE.

• If you choose to volunteer for ICE to reduce the scope of monitoring, additional time must be allotted for the ICE process – notification, ICE worksheet preparation and support documents, NPCC review and walkthrough, finalize results, determine scope.

• If you choose not to volunteer for ICE, then the preliminary scope becomes your final scope and the audit can be scheduled.
Frequently Asked Question

Q: When will NPCC let me know when I can volunteer for ICE, and to what standards?

A1: You can volunteer for ICE once the preliminary scope of the audit (resulting from the IRA) are made known to you.

A2: You can choose to provide internal controls for one, all, or any number of the standards and requirements in the preliminary scope for evaluation by NPCC.

- Guidance and outreach is vital to the success and efficiency of ICE.
- NPCC will work with you to determine the best fit ICE worksheet and approaches. Several meetings/calls/WebEx’s can be held.
Frequently Asked Question

Q: You said IRAs will be completed for all Registered Entities by the end of 2016. My company is not on the 2016 Audit Schedule. Do I have to wait until I get my IRA update letter before I respond to your request?

A1: As of today, there are 219 Registered Entities in the NPCC footprint.

A2: IRAs will not be prepared by NPCC for MRRE (Multi Regional Registered Entities) whose LRE (Lead Regional Entity) is not NPCC. LRE is responsible for the IRA, ICE and scheduling of all monitoring. NPCC will provide compliance history and supporting documentation when requested.
Frequently Asked Question

Q: ......Do I have to wait until I get my IRA update letter before I respond to your request?

A3: Yes, please wait until you receive your IRA update letter before you submit the form and any corroborating documents.

- However, you can prepare the IRA update form in advance and gather corroborating documents so that they will be ready for submittal upon receipt of the letter. The blank IRA form is available on the ERA website.

- Please contact NPCC ERA if you intend to update your IRA form. This will greatly reduce the turnaround time, allow NPCC to level its workload, and enable the IRA to be completed sooner.
Frequently Asked Question

Q: Some information requested in the IRA update package are labor intensive, and redundant to items I’ve submitted to NPCC previously through other activities. Please advise.

A1: NPCC does not want to create extra work for you. Please “repurpose” as much as possible.

If you have prior submitted information that meets the IRA update request, then please Review, Update, Resubmit, and Refer to it. In the Additional Notes column, say “See attached (BES Survey) (Pre Audit Survey) Examples:

• Generator/Transmission Tabs – attach 2014 BES Survey; Gold Book excerpts.

• Organization, Company Profile – update and attach Pre Audit Survey, or copy/paste text into appropriate IRA boxes.
Frequently Asked Question

Q: Some information requested is a bit confusing and doesn’t seem to be applicable to me. What is the criteria for the Low, Medium, High Risk Ratings?

A: The IRA update risk factors and information attributes came from the IRA Guide.

• The criteria for L, M, H are generally the same as the Guide. NPCC modified and augmented the form with a few regional specific items.

• NPCC does not intend for the IRA to be a mini audit.

• The IRA is meant to develop a risk profile of the entity and help “map” appropriate standards for monitoring
Frequently Asked Question

Q: On the previous slide, you said that the results of the IRA are used to “map” to appropriate NERC standards for monitoring. Please clarify.

A: NPCC participated in a NERC sponsored IRA Base Case exercise to compare results of each Regions’ process for risk assessment and scoping of the same entity.

• The results varied. A few Regions developed a formal mapping of applicable standards based on the IRA results.

• NPCC is currently developing a functional/risk-based mapping of appropriate standards based on the IRA results.

• NPCC may ask for assistance/review from the CC.
Refresher: Benefit of Inherent Risk Assessment
Lessons Learned

• Longer lead time to implement IRA and allow for volunteering for ICE. Changed scheduling approach for 2016 Audits.

• Don’t want to create additional work for you to fill out IRA updates – leverage past submittals (review, update and resubmit) and make note of it in “Additional Comments”

• 2014 BES survey – review, update and resubmit to answer the IRA update form’s Gen and/or Transmission tab.

• Pre Audit Survey – renamed to “Risk Assessment Survey”; If you have from prior audits, then review, update and resubmit it (or copy/paste from it) to answer the company profile and org chart questions. If you submit it with the IRA update, then you won’t have to submit it as a Pre-Audit Survey. Just confirm latest info.
Workplan

- IRAs for Entities on 2016 Audit Schedule
- Allow for opt in/out of ICE
- Schedule Audit based on ICE.
- Exception: Regulator wants 1st time audit to include all applicable standards before applying IRA and ICE. IRA developed using results of 1st audit and other compliance history. (In accordance with agreed upon Provincial Regulatory CMEP Implementation Plans)
- IRAs for Entities not on Audit Schedule, but as precursor to ICE.
Frequently Asked Question

Q: What about CIP v5 for IRA and ICE? What CIP information do you want answered in the IRA update form to assess risk-based compliance for the CIP V5 standards?

A1: NPCC is not considering scope reduction to the CIP v5 standards based on risk assessment or internal controls evaluation, AT THIS TIME. The rationale is that all entities are expected to be “baselined” (audited) to their compliance with CIP v5 standards before reduction in scope due to IRA or ICE is considered. This approach was stated to NERC and other Regional CIP SMEs at face-to-face meetings. It was discussed and there were no objections.
Frequently Asked Question

Q: What about CIP v5 for IRA and ICE? ...

A2: Actually, the CIP-002 V5 standard is a form of IRA in that it’s criteria for ranking the Low, Medium and High Impact of BES Cybersystems determines whether or not the remaining CIP standards are applicable and to be monitored or not.

A3: The monitoring method and frequency of CIP V5 standards after the initial audit will be subject to the IRA process. We will be reaching out to the NPCC CIP Audit Manager and team, and NERC, to help develop meaningful Risk Factors specific to CIP standards to determine scope and monitoring methods.
Lessons Learned - ICE

ICE Documentation

• Need a long lead time
  • Entity to fill out and describe their internal controls design. 4 weeks minimum.
  • NPCC ICE team to review offsite and coordinate onsite ICE
  • Critical path - complete ICE to determine scope of audit before t-90days for Audit Notification letter.
  • Imponderables: other activities (planned outages, prep for TOP certification, storms)
Lessons Learned

ICE Documentation

• Format for ICE worksheet is not universal among the ERO.
  • NPCC developed 3 types of ICE worksheets to suit your needs.
  • Entities are free to mix and match use of the 3 types or hybridize them for best fit and usability.
  • High level flow diagrams add value to entity and NPCC in understanding Internal Controls Design
• Bottom Line: NPCC will assist and work with you to maximize efficient use of your resources and to understand what to provide for ICE.
Integrated Controls Design

Process Function / Workflow:
- Control Room
- Engineering
- Compliance
- Protection & Control
- Change Mgmt.
- Emergency Ops., etc.

Policies & Procedures:
- P&P’s
- SAT

Skills Human Capital:
- SME’s
- Experience Level
- Training Program
- Certification
- Power Systems
- Operations
- Engineering
- Maintenance/Testing

Systems & Automated Tools:
- EMS / SCADA
- Training
- Change Mgmt.
- Procurement
- Capital Projects
- Compliance / Regulatory
- Maintenance/Testing

Standards & Requirements:
- Control Objectives
- Risk Mitigation
ICE Review Process

- Purpose: Evaluate entity’s internal control design and related risk mitigation. Establish a level of ‘Reasonable Assurance’ of the internal control design, its implementation status and overall effectiveness. Determine whether there is reasonable assurance that the ICD meets the control objective of Standard to enable removal of the requirement from audit scope. Alternate monitoring means may be considered.

- NPCC developed multiple ICE worksheet types to “tease out” the details of the entity’s ICD.

- The ICE team provides ongoing outreach, training and assistance to ICE volunteers:
  - Face to face meeting (on-site or at NPCC), and/or
  - WebEx meeting
ICE Template Type 1 – discrete listing of requirement

<table>
<thead>
<tr>
<th>Standard Number</th>
<th>Requirement Number</th>
<th>Function</th>
<th>Text of Requirement</th>
<th>Violation Risk Factors</th>
<th>Internal Control Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAC-008-3</td>
<td>R1.</td>
<td>GO</td>
<td>Each Generator Owner s</td>
<td>LOWER</td>
<td>To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on technically sound principles. A Facility Rating is essential for the determination of System Operating Limits.</td>
</tr>
<tr>
<td>FAC-008-3</td>
<td>R2.</td>
<td>GO</td>
<td>Each Generator Owner s</td>
<td>MEDIUM</td>
<td></td>
</tr>
<tr>
<td>FAC-008-3</td>
<td>R4.</td>
<td>GO,TO</td>
<td>Each Transmission Own</td>
<td>LOWER</td>
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<tr>
<td>FAC-008-3</td>
<td>R5.</td>
<td>GO,TO</td>
<td>If a Reliability Coordinator</td>
<td>LOWER</td>
<td></td>
</tr>
<tr>
<td>FAC-008-3</td>
<td>R6.</td>
<td>GO,TO</td>
<td>Each Transmission Own</td>
<td>MEDIUM</td>
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<tr>
<td>FAC-008-3</td>
<td>R7.</td>
<td>GO</td>
<td>Each Generator Owner s</td>
<td>MEDIUM</td>
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<tr>
<td>FAC-008-3</td>
<td>R8.</td>
<td>GO,TO</td>
<td>Each Transmission Own</td>
<td>MEDIUM</td>
<td></td>
</tr>
<tr>
<td>PRC-005-2</td>
<td>R1.</td>
<td>DP,GO,TO</td>
<td>Each Transmission Own</td>
<td>MEDIUM</td>
<td>To document and implement programs for the maintenance of all Protection Systems affecting the reliability of the Bulk Electric System (BES) so that these Protection Systems are kept in working order.</td>
</tr>
<tr>
<td>PRC-005-2</td>
<td>R2.</td>
<td>DP,GO,TO</td>
<td>Each Transmission Own</td>
<td>MEDIUM</td>
<td></td>
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<tr>
<td>PRC-005-2</td>
<td>R3.</td>
<td>DP,GO,TO</td>
<td>Each Transmission Own</td>
<td>HIGH</td>
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<tr>
<td>PRC-005-2</td>
<td>R4.</td>
<td>DP,GO,TO</td>
<td>Each Transmission Own</td>
<td>HIGH</td>
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<tr>
<td>PRC-005-2</td>
<td>R5.</td>
<td>DP,GO,TO</td>
<td>Each Transmission Own</td>
<td>MEDIUM</td>
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### ICE Template Type 2 – Hybridized by Focus Area

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<tr>
<th>Focus Area</th>
<th>Standard Number</th>
<th>Internal Control Objective</th>
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<tbody>
<tr>
<td>0 Not Part of any 2015 ERO CMEP IP Focus Areas</td>
<td>EOP-002-3.1</td>
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<td></td>
<td>EOP-004-2</td>
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<tr>
<td></td>
<td>EOP-005-2</td>
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<td>EOP-006-2</td>
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<td>EOP-008-1</td>
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<td>EOP-010-1</td>
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<td>TPL-003-0b</td>
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<td>TPL-004-0a</td>
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<td></td>
<td>EOP-001-2.1b</td>
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<td>EOP-002-3.1</td>
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<td>EOP-005-2</td>
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<td>COM-002-2</td>
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<td>PER-003-1</td>
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<tr>
<td>1 Human Error</td>
<td>TPL-001-0.1</td>
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<td></td>
<td>MOD-001-1a</td>
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<td></td>
<td>MOD-029-1a</td>
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<td>TPL-003-0b</td>
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<tr>
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<td>EOP-010-1</td>
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<tr>
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<td>FAC-011-2</td>
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<td>FAC-014-2</td>
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<td>IRO-002-2</td>
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<td>IRO-005-3.1a</td>
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<td>IRO-008-1</td>
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<tr>
<td></td>
<td>IRO-014-1</td>
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<td>PRC-001-1.1</td>
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<td>TOP-002-2.1b</td>
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<td>BAL-001-1</td>
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<tr>
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11/12/2015
# ICE Template Type 3 – Functional Responsibilities

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<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity's Functional Business/Control Process</strong></td>
<td><strong>Standards and Requirements</strong></td>
<td><strong>Internal Control Objective(s)</strong></td>
<td><strong>Entity IC Design &amp; IC's</strong></td>
<td><strong>For Entity Use</strong></td>
</tr>
</tbody>
</table>
| **Emergency Operations** | EOP-001 R2, R6 EOP-003, R8 | - Develop, maintain, and implement a set of plans to mitigate operating emergencies.  
- Balancing Authority and Transmission Operator operating with insufficient generation or transmission capacity must have the capability and authority to shed load rather than risk an uncontrolled failure of the Interconnection. | 1.0 Plan (PDC)  
1.0.1 - OP-0, OP-0A - Procedures  
  1.0.1.1 - Procedure Development, Formatting and Program  
1.0.2 - ISO secure site for LCC procedures, drawings and system studies.  
1.0.3 - M/LCC Heads Meeting  
1.0.4 - 7:45 am call/Midnight call  
1.0.5 - ISO's approval of TOA/CROW applications | **Key IC Indicator** |
|  |  |  |  | 1.0.1 - Key  
2.0.5 - Key  
2.0.6 - Key  
2.0.7 - Key  
2.0.9 - Key |

**NPCC, Inc.**

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ICE Template Type 3 – Functional Responsibilities (cont’d)

<table>
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<tr>
<th></th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Key IC Rationale / Description (Basis)</td>
<td>IC Type [P/D/C Preventative, Detective, Corrective]</td>
<td>IC’s / IC Design Mode (A=Auto, M=Manual, H=Hybrid)</td>
<td>Discrete IC Risk Mitigation</td>
<td>Entity Policies &amp; Procedures Cross Reference</td>
<td>Entity Reference Supporting Evidence Submission</td>
<td>Entity 3rd Party Assessment - Vendor Name (if applicable)</td>
</tr>
<tr>
<td>2</td>
<td>1.0.1 - Overarching P&amp;P governance.</td>
<td>1.0 - PDC</td>
<td>2.0.7 - Hybrid</td>
<td>1.0.1.1 - Operations/Operational Continuity</td>
<td></td>
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<tr>
<td></td>
<td>2.0.5, 2.0.6, 2.0.9 - Operator Situational Awareness and Intervention.</td>
<td>2.0 - PDC</td>
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</tr>
<tr>
<td></td>
<td>2.0.7 - Required Test/Training</td>
<td>3.0 - PDC</td>
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# ICE Template – Core Controls

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity’s Functional Business/Control Process</strong></td>
<td><strong>Standards and Requirements</strong></td>
<td><strong>Entity’s Functional Business/Control</strong></td>
<td><strong>Internal Control Objective</strong></td>
<td><strong>Entity IC Design &amp; IC’s</strong></td>
<td><strong>Key IC Indicator</strong></td>
<td><strong>Key IC Rationale / Description (Basis)</strong></td>
</tr>
<tr>
<td><strong>All Policies and Procedures: Annual review and approval of all Policies and Procedures</strong></td>
<td>All Standards</td>
<td>To ensure all core Technical Compliance Policies and Procedures are reviewed and updated consistently. Updates are made as a result of changing Reliability Standards requirements, changes in NERC registrations, business process improvements, and/or organizational changes.</td>
<td><em>Annual review and approval of Technical Compliance procedures are managed using a SharePoint tool (document “factory”). This procedure is supported by an internal Level 2 balanced scorecard measure that is reported monthly to senior management. The goal is to complete annual reviews of 100% of the NERC-related policies and procedures that support ACME’s Reliability Standards compliance program.</em></td>
<td><em>Procedures are consistently reviewed and updated to reflect changes in the business environment; reliability standards requirements, NERC registrations, business processes, and/or organizational changes.</em></td>
<td>Key - Process to ensure all procedures are consistently reviewed and updated to reflect changes in the business environment; reliability standards requirements, NERC registrations, business processes, and/or organizational changes.</td>
<td>This is a key control that helps reinforce the obligations of the key internal stakeholders in managing the Reliability Standards compliance program. Further, it illustrates ACME’s commitment to continuous improvement.</td>
</tr>
<tr>
<td><strong>Process: Internal Audit</strong></td>
<td>All Standards</td>
<td>To provide an independent review of ACME’s management of its Reliability Standards compliance program and the adequacy and effectiveness of the internal controls that support compliance with the Reliability Standards.</td>
<td>This is an Internal Audit process that focuses on conducting independent audits of various aspects of the reliability standards compliance business processes and controls.</td>
<td></td>
<td>Key - Process to conduct independent oversight of various aspects of the reliability standards compliance processes and controls.</td>
<td>This independent control is part of the compliance oversight identified in Policy 0-TC-98-999-R04. These audits focus on testing of internal controls, not on compliance evidence. The latter is in the domain of the RSC staff. The internal controls testing is aimed at ensuring that the roles and responsibilities and business processes that support the Reliability Standards compliance program are understood and being properly applied.</td>
</tr>
<tr>
<td><strong>Process: Participation: Compliance Benchmarking</strong></td>
<td>All Standards</td>
<td>To ensure continuous improvement of the ACME Reliability Standards Compliance Program by collaborating with and learning from other Entities, forums, and associations.</td>
<td>ACME participates in several forums, meetings, processes, and discussions to learn and continuously improve its Reliability Compliance Program: * Discusses and benchmarks its Compliance Program with other Entities in the NPCC Region * Engages third party expertise in the form of consultants * Participates in trade forums such as the North American Generator Forum, the North American Transmission Forum, the American Public Power Association, and the Electric Reliability Council of Texas.</td>
<td>N/A - not Key</td>
<td>N/A - not Key</td>
<td>Preventive, Detective</td>
</tr>
</tbody>
</table>
### ICE Template – Control Description Tab
(in addition to the requirement specific ICE tab)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SCADA/EMS</strong></td>
<td>Supervisory Control and Data Acquisition (SCADA) is the system used to monitor the ACME power system and control field devices. SCADA receives data from devices in the field, which keeps System Operators informed of system conditions so that appropriate actions can be taken. The Energy Management System (EMS) consists of the suite of software applications (including State Estimator and Contingency Analysis) used to evaluate the security of the ACME ACME area transmission system in both real-time and under study (user defined) conditions.</td>
<td></td>
</tr>
<tr>
<td><strong>State Estimator / Contingency Analysis</strong></td>
<td>State Estimator (SE) is an EMS application that uses all the available data about the state of the power system to provide a ‘best estimate’ of the current state of the system. This ‘best estimate’ is used as input to the other applications. SE output is used directly by the Contingency Analysis (CA) application, which analyzes the system to determine whether there would be any MVA or voltage violations if any one of a defined list of contingencies were to occur.</td>
<td></td>
</tr>
<tr>
<td><strong>Outage Application</strong></td>
<td>A scheduling application which allows the ACME to submit all pertinent information regarding an outage request. ISO then uses the logged requests to schedule and coordinate work in the Region. Outage Application is ACME's application to perform multiple functions; including but not limited to: Logging of significant events, Generator Limits &amp; Constraints, Shift Turnover Logs, Shift Checklists (must be completed), Event Reports, Trouble Reports. ACME's Outage Application application has a unique added feature which directly links input data to ISO's outage application. This saves operator's time and reduces any input errors.</td>
<td></td>
</tr>
<tr>
<td><strong>System Restoration Working Group</strong></td>
<td>The System Restoration Working Group is a preventative control which ensures that an effective and coordinated emergency restoration plan is in place for ISO New England, the ACME's, and TO's which support restoration. This group also ensures that plans are synchronized with other BA's/RC's and the Eastern Interconnection. The System Restoration Working Group objectives include but are not limited to: restoration procedures/plans, reviewing and recommending and approving Black Start resources/location and Key Facilities, performing annual restoration exercises, and reviewing relevant industry and regulatory events, issues, and Lessons Learned. Additionally, System Restoration Working Group recently recommended and ACME implemented an increase from 8 hours to 12 hours of simulation exercises dedicated to supporting ISO/ACME Procedure XYZ.</td>
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<td><strong>System Restoration Checklist (Procedure ABC)</strong></td>
<td>As part of Procedure ABC, Maintenance and Verification of TOP System Restoration Plan, a check list of tasks to be performed for the annual system restoration training is included as an Attachment to the procedure. This checklist ensures proper steps are completed with each exercise, and the completed sheets are evaluated by the System Restoration Working Group for review and potential modifications.</td>
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Describing the Process Function/Workflow and Internal Controls

- Examples provided show a wide variety of controls and ways to describe their design.
- Examples of ICE assessed process function/workflows might include:
  Control Room Operations, Engineering, Planning, Restoration, Protection & Control, Misoperations, Maintenance/Testing, Training, SCADA /EMS, Change Management, CATSWEB, etc.
- The ICE team uses the 5 W’s + 1 H rule to describe the Process Function/Workflow and underlying internal controls
- The attributes of **Who, What, When, Where, Why & How** are used to assess the design.
Overview Flowcharts

- An extensive amount of data is provided to describe a multitude of Internal Control Designs (ICD) for many standards, focus areas or functional responsibilities.
- You and your SMEs know your ICDs inside and out.
- The ICE Team is challenged to review this information, in a short time, with adequate rigor, minimal intrusion on your SMEs’ tasks, and minimal use of your time, to obtain reasonable assurance that the ICDs are adequate and can be removed from scope.
- To facilitate quick understanding of the process function/workflow, resident controls and risk mitigation, **NPCC suggests developing overview ICE flow diagrams**.
- These enable an integrated overview of related process functions/workflows, control activities and risk mitigation.
- Facilitate identification of possible gaps in control design and other inherent risks.
- Recognized by the IIA as a preferred ‘best practice’ documentation method and analytical tool.
Flow Diagram – “Map” Internal Controls

Other suggestions:
1. Include high level information from the ICE template, into the respective activity box or outside it. (e.g. any timing restrictions – must be done within 30 days, etc.)
2. Include information that helps map the “who what where when how” information on the ICE worksheet, to this high level overview of the process, it's tools and it's participants.

Entity A observes potential non-compliance
[Entity Policy 123]

Notify supervisor, SME? [Entity procedure 456]

SME notifies Entity Compliance Group
[Entity procedure 789]

Fact finding, review, conclusion, need for mitigating actions and self reporting/self logging? [Entity procedure 789]

Is there a non-compliance?

Perform mitigating actions and documentation for Self Reporting or Self Logging [Entity procedure 789]

Notify appropriate internal parties, maintain documentation and basis for conclusion. [Reference procedure]

Next actions if any – (Lessons learned, periodic department meetings, training, etc.) [Reference procedure]

Self Report or Self Log? [Entity procedure 789]

Self Report

Self Log

Notify appropriate internal parties, maintain documentation and basis for conclusion for review by NPCC Enforcement. [Reference procedure]
Flow Diagram – “Map” Internal Controls

1. Acme Outage Application Submitted [Acme Procedure X]
   - Outage application entered into RC’s (software application) [RC procedure Y and/or Acme Procedure Y]
   - RC makes generator notifications and RC Outage Request form document notifications

2. Required studies are performed and summary is included in ISO’s Outage Request form
   - Review cause for rejection. Revise request or study alternative outage actions for resubmittal. [Acme Procedure Z]

3. Outage Request approved by ISO
   - Next action, reference procedure
   - List associated entity SME dept here if applicable

4. Outage Request denied by ISO
   - List associated entity SME dept here if applicable
ICE Benefits

Experience never gets old.
ICE Benefits

• Short-term: Reduction of audit scope; shorter onsite audit; less impact on entity
• Long term: Potentially large scope reduction, alternate monitoring method or longer time between audits.
• Free internal control consultation.
• Scalable – entities can pick and choose standards/requirements for which internal controls are volunteered for ICE.
ICE Benefits (cont’d)

- Not an audit - no violations. May result in non-binding recommendations.
- Introspective review of Internal Control Design to prevent, detect, and correct drift from compliance for NERC reliability standards.
- Limited downside – worst that can happen is the ICE results in keeping the standard/requirement in scope. Entity has opportunity to review and implement recommendations for future ICE.
Frequently Asked Question

Q: What’s the relationship between ICE and Self-Logging? Do I need an ICE to qualify for Self-Logging?

A1: Entities can apply for Self-Logging at any time by contacting NPCC Enforcement.

A2: ICE is voluntary and focused on specific standards and requirements, some exceeding the risk threshold allowed for Self-Logging. ICE is scheduled after determining the preliminary audit scope based on the results of the Inherent Risk Assessment.

A3: If the entity volunteering for ICE includes it’s Compliance Program, Potential Non-Compliance Process, Self-Reporting and Mitigation Processes for evaluation, the NPCC ERA group can provide the ICE results to NPCC Enforcement to support or validate their decision to allow the entity to Self-Log.
Where Do We Go From Here?

• Workplan for IRA’s and ICE for 2016 Audited Entities
• Workplan for completing IRA’s for all remaining Registered Entities
• Continue performing and improving ICE
• Refine and clarify IRA update form
• Complete and refine “mapping” of monitored standards based on IRA results.
• Address NERC observer comments/questions on IRA/ICE and scoping of audits.
• Document management for NERC Phase 2 assessment
• Continue outreach and guidance at Workshops and on website
Outreach

• NPCC Compliance Workshops – two per year
• NPCC Website –
  • ERA Program Document
  • Self service (forms) and instructions
    • IRA update
    • Typical ICE worksheets for GO/GOP
• Education (FAQ’s and past workshop presentations)
• References

Contacts:  Ben Eng (beng@npcc.org)
Duong Le (dle@npcc.org)
(still no answer?)  Sal Buffamante (sbuffamante@npcc.org)
QUESTIONS ?
Thank You