Compliance Impacts to EMS Replacements

EMMOS User Conference 09/23/2019
Little Rock Arkansas
What’s in this presentation for me?

- CIP standards **will** dramatically change how you plan your EMS upgrade/replacement project today.
- CIP standards continue to change, e.g. CIP-013-1 Supply Chain Management Risk Mitigation roles out with mandatory enforcement July 1, 2020
- Are you planning an EMS upgrade with the same software vendor?
- Are you upgrading software and hardware or just software?
- Are you switching EMS vendors?
- Is your Compliance team dedicated to and embedded within your EMS replacement project?
- When do you start device commissioning and what does that do to your implementation timeline?
- Have integrated your CIP timeline in the EMS project plan?
- Are you managing updates to your NERC 693 processes & procedures in a similar fashion as you are for CIP?
Who is Evergy?

• Evergy, Inc. formed on June 4, 2018 when Westar Energy and Kansas City Power & Light merged

*SERVICE TERRITORY*

**EMMOS User Conference - Little Rock AR 2019**

• Operating Company names remain during brand transition

**Combined Pro Forma Key Operating Metrics**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Rate Base (Sbillion)$^2$</td>
<td>$13.1</td>
</tr>
<tr>
<td>Electric Customers (million)</td>
<td>1.6</td>
</tr>
<tr>
<td>Owned Generation Capacity (MW)</td>
<td>13,083</td>
</tr>
<tr>
<td>Renewables (MW)$^3$</td>
<td>3,116</td>
</tr>
<tr>
<td>Transmission Miles</td>
<td>10,000</td>
</tr>
<tr>
<td>Distribution Miles</td>
<td>52,000</td>
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</tbody>
</table>

1. Operating metrics combined Westar Energy and Great Plains Energy pro forma as of 12/31/17.
2. Estimated rate base based on ordered and settled rate cases.
3. Renewables include both owned and purchase power agreements as of 12/31/17. Additionally, we expect total renewables will be over 3,600MW by mid-year 2019.

Excludes Crossroads Generating Station located in Clarksdale, MS and Spring Creek Energy Center located in Logan County, OK.

Evergy companies
Who are we?

• Andrew Crain
  • Manager, IT Apps & Services
  • Evergy
  • Andrew.crain@evergy.com

• Chris Unton
  • Practice Lead, Security & Compliance
  • Utilicast
  • crunton@utilicast.com
Evergy EMS History

KCP&L

Westar

ABB Ranger

Siemens Spectrum

2015 OSI Monarch

Evergy
2020 OSI Monarch
NERC Appendix 5A Certification

4. The decision to certify changes to an already operating and certified Registered Entity is a collaborative decision between the affected Regional Entity(s) and NERC. NERC has the final authority regarding this decision. Items to consider for this decision include one or more of the following:
   a. Changes to a Registered Entity’s Footprint or operational challenges (i.e., TLRs) due to the changes
   b. Organizational restructuring that could impact the BPS reliability
   c. Relocation of the control center
   d. Changes to Registered Entity ownership requiring major operating procedure changes
   e. Significant changes to JRO/CFR assignments or agreements changes
   f. Addition or removal of member JRO/CFR utilities or entities

Section IV — Organization Certification Process

g. Complete replacement of a Supervisory, Control and Data Acquisition (SCADA)/Energy Management System (EMS) system
Regional Entity Perspectives

- Each Regional Entity provides a certification form or link to begin the process.
- Some Regional Entities provide details of in-scope requirements for the (re)certification only 90 days ahead of the on-site visit.
- Other Regional Entities provide templates well in advance.

Bottom line – reach out to your Regional Entity early in the process.
Greenfield or Upgrade in Place?

<table>
<thead>
<tr>
<th>Pro</th>
<th>Con</th>
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</table>
| **Greenfield** | *More powerful hardware*  
*Latest technologies available*  
*Minimal potential for impacting current operations* |
| **Upgrade In Place** | *Existing support systems may not need re-work*  
*Potentially less expensive* |
| *Large investment at a single point in time*  
*Staff must support two environments for a period of time* |
| *Potential for reliability and compliance risk*  
*Missed opportunities for process and tool improvements* |
Vendor Responsibilities

- What elements of your security and compliance program can be contractually obligated (RFP, MSA, SoW, Contract) to the EMS Vendor?

- Areas to consider:

<table>
<thead>
<tr>
<th>Malware prevention</th>
<th>Account Management documentation / RBAC</th>
<th>Ports and Services Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security Status and Log Monitoring</td>
<td>Changes to file system and operating system permissions</td>
<td>Hardware Configuration</td>
</tr>
<tr>
<td>Heartbeat signals</td>
<td>Software/patch updates</td>
<td>Supply Chain cyber security</td>
</tr>
<tr>
<td>Firewalls / IPS</td>
<td>Session Management</td>
<td>Password policy management</td>
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</tbody>
</table>
Owners and Stakeholders

EMS Project Team

- Execs
- IT Infrastructure
- Compliance
- Operations
- Facilities
- Security

- Standard Owner
- Requirement Owner
- Compliance liaison
Commissioning

- CIP Standards never use the term “Commissioning”, but it’s a very good idea!
- Establishes initial performance of the requirements (system setup)
- In God We Trust, All Others Bring Data – demand evidence of compliance beyond the checkbox
- Dry run your procedure prior to executing “en masse”
- Include quality control steps within the procedure
- Consider systems of record and automated data gathering
- Always takes longer than you think it should!
Operations & Training

• Don’t expect day to day operations team to also run a project
  • Dual maintenance should be expected
• Procure or contract dedicated resources (reduces timeline risk)
• Align technology roadmap with the greater corporation
• Build training into the project budget & schedule
• Anticipate changes to CIP Standards
  • Implement flexible solutions
  • Continue training practitioners
Quality Control / Internal Controls

- Who will test process effectiveness (and outputs) initially and on an ongoing basis?
- Can you build control points into your toolsets? (automation / preventative controls)
- Controls pay dividends at certification, annual self-certs, and audits
Recertification Timeline

- Allow time for Bucket 1/2/3 items
  - Bucket 1 – must be addressed prior to go-live
  - Bucket 2 – likely non-compliance over time if not addressed
  - Bucket 3 - recommendations