



Southwest Power Pool, Inc.
OVERSIGHT COMMITTEE MEETING
December 8, 2014
SPP Corporate Offices, Little Rock, AR

• A G E N D A •

8:30 a.m. – 1:30 p.m. CST

- 1. Call to Order/Administrative Items Josh Martin
- 2. Action Items Report..... Josh Martin
- 3. Update on Current Activities
 - a. Compliance Kim VanBrimer
 - b. Internal Audit Lauren Krigbaum
 - c. Market Monitoring Unit Alan McQueen
- 4. Looking Forward Report..... Craig Roach
- 5. 2014 Audit Plan Lauren Krigbaum
- 6. Order 1000 Update..... Ben Bright
- 7. Annual Survey/Assessment Review Josh Martin
- 8. New Action Items Shaun Scott
- 9. Future Meetings Josh Martin

2015

March 26	Washington D.C.
June 8	Little Rock
September 24	Chicago, O'Hare Airport
December 7	Little Rock, AR

Executive Session

**Southwest Power Pool
OVERSIGHT COMMITTEE MEETING**

**September 25, 2014
American Airlines Admiral's Club, Terminal 3
Chicago O'Hare Airport, Chicago, IL**

• M I N U T E S •

Agenda Item 1 – Administrative Items

Josh Martin called the meeting to order at 9:03 a.m. Members in attendance: Josh Martin (Director), Larry Altenbaumer (Director), and Phyllis Bernard (Director). Staff in attendance included Stacy Duckett, Alan McQueen, Philip Propes, Lauren Krigbaum, Joseph Ghormley, Michael Desselle and Ben Bright. Others in attendance were Jim Eckelberger (Director) and Noman Williams (Sunflower Electric). Phyllis Bernard made a motion and Larry Altenbaumer seconded it to approve minutes from the June 9, 2014 meeting (Minutes 6/9/14 – Attachment 1), which passed with unanimous approval.

Agenda Item 2 – Action Items Report

Stacy Duckett reviewed the Action Items Report (Action Items Report – Attachment 2) referring to updates in the report. Josh Martin asked that the audit of Market Monitoring Unit (MMU) be conducted by the end of 2015.

Agenda Item 3 – Update on Current Activities

- a. Lauren Krigbaum updated the Oversight Committee on changes in the audit schedule (IA Activity Report – Attachment 3a). Most changes are related to timing. There will be a new focus on manual work arounds to assess risk. Lauren noted Off We Go invoices are available for Josh Martin's review as they are each year. The SOC1 audit has required considerable time from Internal Audit (IA), but it is going well. The group is also conducting a controls review. They are monitoring and supporting the Tariff review, but see more of a role in the future of reviewing results. Josh confirmed this work is within the Charter; Lauren agreed. Jim Eckelberger requested more information on fixed assets – need to address to resolve, including consideration of reducing the requirement. Jim also discussed the IT Foundation budget and whether it is possible to design an audit to assess; Larry Altenbaumer noted discussion at the Finance Committee meeting as well. Lauren noted the group is working on a project expense review now; this can be expanded to include all expenses. The group is also planning an audit of the budget process.
- b. Philip Propes referred to the outreach support program and current statistics (Compliance Directors Report – Attachment 3b). Attendance continues to increase at Forums and meetings. Evidence reviews continue to increase as well. The group is now being asked for feedback on mitigation plans, including meeting with the entity and the Regional Entity (RE). This has resulted in the reduction of violations in some cases.

Compliance initiated a corporate-wide Tariff review project. Compliance will work with IA for the going forward process to ensure it is done properly in the future. Phase I (assignment of sections of the Tariff) is to be done by the end of September. Phase II (review by the assigned group) is to be done by the end of March. Phyllis asked about timing; we are being flexible, but also pushing to complete the project.

Noman Williams asked whether members will be advised of Tariff gaps. He also asked about understanding by the RE staff of the division of duties between SPP and the Registered Entities. Compliance is expanding spot checks internally.

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Regarding the Action Item on Cyber Security:

- o The course has to be revised and updated by the third party provider. This is currently pending and will be scheduled once approved and made available.

Regarding the Action Item on developing security metrics the group is working with IT now.

- o The current draft is too technical so it is being revised and will be ready at the December meeting. One example, entities are required to run vulnerability tests annually, but SPP runs them at least quarterly. Group continued to discuss risk level at SPP.

Josh Martin asked if we need to bring someone in, but prefers to say we have it covered, and even better, so no need to hire someone. Committee suggested finding resources to provide additional insight as “outsider”, noting there are no standards from NERC, NAESB, etc. Philip will explore this. Jim Eckelberger asked about the impact on the outreach program if SPP begins charging; Philip noted some work has been done to assess what fees might be. Larry Altenbaumer also noted the discussion at the Finance Committee regarding charging for services “above and beyond” to help show value and consider impact to the organization.

- c. Alan McQueen provided the MMU report, (MMU report – Attachment 3c1 and Market Participant Interactions Protocols – Attachment 3c2). On staffing, we have upgraded the Supervisor roles to the Manager level to reflect work being done by those positions. We also elevated a role to Principal to oversee special studies. This will save consulting dollars and continue to develop internal expertise. There are two open positions, but we are moving forward with postings and interviews and expect to fill both soon.

FERC staff is coming to SPP next week for an educational session. The engagements with FERC are going well, but require a lot of time. Alan noted efforts by SPP MMU to encourage FERC to make quicker determinations and be as transparent as possible in the review and referral process.

Phyllis Bernard asked how much money moves through the market. Alan noted attempts to quantify and put into context. A number should be available in the future.

Noman Williams asked questions regarding must offer as considered by MMU. Alan noted MMU looks at considerable details to assess. There are several discussions on-going through the stakeholder process, including consideration of Tariff revisions.

Agenda Item 4 – Internal Audit

- a. Lauren Krigbaum referred to the draft audit plan and requested any feedback. Jim Eckelberger provided one suggestion. Any additional input can be provided directly to Lauren. The final plan will be presented for approval at the December meeting.
- b. The Internal Audit Charter revisions reflect updates from a national level. The committee requested adding more clarity regarding the relationship with the supervisor and the Oversight Committee beyond what is currently in the Charter. A new draft will be presented at the December meeting.

Agenda Item 6 - MMU/Stakeholder Engagement

Alan McQueen introduced the discussion of Mitigated Offer concerns as captured in MPRR 197. The MMU staff has been working with stakeholder groups to clarify and resolve. Current approach in the SPP Tariff was developed and approved by stakeholders. The MMU’s role is to assess mitigated offers to ensure they are in compliance with the Tariff. The current dispute is the way in which the MMU is assessing short run marginal costs. For example some want to include general O&M in SRMC and the MMU disagrees. Several options are moving through the stakeholder process at this time.

(The meeting moved to Agenda Item 5 to accommodate schedules, then resumed Agenda Item 6.)

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Agenda Item 5 – Contract for 2015 Support

Craig Roach referred to the memo outlining a proposal for work for Boston Pacific in 2015 (Boston Pacific Memo – Attachment 5), including a Looking Forward Report, and being generally available for consultation as needed, all at the same price as in 2014. The next step is for Boston Pacific (BP) to propose topics, then review and discuss with the Oversight Committee. Jim Eckelberger suggested any tactical ideas for addressing seams issues would be helpful. Phyllis noted technology advances and the impact they may have on planning and the grid and the existing utility business model. The Committee determined to engage BP. We will get topics and set up a call to discuss.

Resumed Agenda Item 6 - MMU/Stakeholder Engagement

Noman Williams attended the meeting to represent the Member perspective on MPRR 197. He suggested MMU be more overt on its positions and intent to resolve matters through the SPP process. All of this ultimately ends up at FERC for resolution. Josh Martin thanked Noman for his participation.

The meeting was adjourned to Executive Session at 12:30 PM. Those present for the Executive Session: Committee members Josh Martin, Larry Altenbaumer, and Phyllis Bernard. Others in attendance, Jim Eckelberger, Michael Desselle, Ben Bright, Joseph Ghormley and Stacy Duckett.

The purpose of the Executive Session was to discuss Order 1000, and specifically requirements from Tariff, Att Y, including Affiliation and its impact on eligibility. Ben Bright reviewed the process and presented the candidates. The Oversight Committee reviewed candidates and determined a group to recommend as a panel for consideration by the Board. To clarify previous directions, Larry Altenbaumer proposed a retainer of \$1000 per month or hourly compensation, whichever is greater. The Training month is \$1000 plus \$4000 for total of \$5000. The contracts will start and run annually in January.

Adjourned Executive Session at 2:30 PM.

Agenda Item 7 – New Action Items

- Stacy Duckett will ensure Josh Martin’s report at the October Board meeting includes Tariff review project
- Philip Propes to seek resources to provide third party view of SPP systems
- Josh will report on the Order 1000 process at the October Board Meeting and recommend the Pool

Agenda Item 8 – Future Meetings

2014

December 8 Little Rock, AR

2015

March 26 Washington D.C.

June 8 Little Rock, AR

September 24 Chicago, O’Hare Airport

December 7 Little Rock, AR

Adjournment

Josh Martin thanked everyone for participating and adjourned the meeting at 2:30 PM.

Respectfully Submitted,

Stacy Duckett, Secretary



Southwest Power Pool, Inc.
OVERSIGHT COMMITTEE
Pending Action Items Status Report
December 8, 2014

Action Item	Date Originated	Status	Comments
The Committee will consider engagement of an outside firm to audit/assess MMU metrics and processes.	Dec 9, 2013	Pending	Any engagement will occur in 2016.
Internal Audit to develop approach for assessing SPP modeling processes and effectiveness.	Dec 9, 2013	In Process	Internal Audit is working with various departments to develop an inventory list of SPP models. Will work with Engineering and Compliance to develop an approach for assessing the processes and effectiveness of the processes.
TBD will present security metrics at the September meeting in Executive Session.	June 9, 2014	Completed	Production metric reports will be presented at Q4, 2014 meeting.
Review and approval of Internal Audit charter at September meeting.	June 9, 2014	Pending	Scheduled for review during the September meeting; additional edits will be presented at Q4, 2014 meeting.
Dates for Cyber training at SPP.	June 9, 2014	In Process	Training partner is awaiting authorization from DHS for new course. Delivery will be scheduled after approval. Tentatively Q2, 2015. This will be an Outreach Service Offering. Fee to attend TBD.
Duckett to ensure Martin's committee report for Q3 Board meeting includes Tariff review project	Sept 25, 2014	Completed	The Tariff Review Project is under way with the help of Project Management. The current completion date is March 2015.
TBD to seek resources (s) for 3rd party review of SPP systems	Sept 25, 2014	Pending	.
Martin to report and recommend Industry Expert Panel for Order 1000 process at October Board meeting.	Sept 25, 2014	Completed	Panel reported and recommendation approved as presented.



**Southwest Power Pool, Inc. (SPP)
Compliance Department
Q4 2014 Report to the Oversight Committee**

Compliance Report

Integration Services Project

Lead Compliance Analyst – Lonnie Lindekugel

Lead Compliance Analyst – Mark Robinson

Compliance Analyst II – Melissa Rinehart

As part of the project team for the Integrated Systems (IS) Entities (Western, Basin, Heartland) into SPP, we are responsible for the efforts to have SPP re-certified by SERC Reliability Corporation (SERC) and Midwest Reliability Organization (MRO) as a Reliability Coordinator (RC) and Balancing Authority (BA). These efforts will culminate in SPP becoming the RC for the IS Entities on June 1, 2015, and the BA for the IS entities on October 1, 2015. There are currently weekly project meetings, but the work related to re-certification will increase as soon as SERC and MRO provide their initial request for information, which is expected in the next week.

Operations Standards and Department Support

Lead Compliance Analyst – Mark Robinson

Compliance Analyst II – Melissa Rinehart

SERC Self Certifications and Data Submittals

With the exception of the self-certification for CIP-002-3, which is due in December 2014, all SPP self-certifications have been submitted to SERC for 2014

SPP Operations Internal Spot Check – 2014

As part of the SPP Compliance Department's Evidence Review Team, we have reviewed the Reliability Standard Audit Worksheets (RSAWs) and compliance evidence provided by SPP Operations for 32 NERC Reliability Standards (159 requirements). A team review of this information will conclude the 2014 efforts in this regard.

In 2015, the Evidence Review Team will review 20 Standards, which include 55 requirements.

North American Transmission Forum (NATF) Peer Review of SPP

We will participate as a Subject Matter Experts (SMEs) in the North American Transmission Forum (NATF) peer review of SPP. The preparation for the peer review begins in November 2014, with the on-site review being conducted during the week of December 15-19, 2014.

Engineering Standards and Department Support

Senior Compliance Engineer - Jonathan Hayes

Compliance Analyst II – Melissa Rinehart

Engineering Standards Related

There are new standards and associated Engineering processes underway, including TPL-007-1, TPL-001-4, MOD-025-2, MOD-032, MOD-033, PRC-026-1, PRC-010-1, PRC-024, CIP-002-5, and CIP0-14-1. Compliance is helping develop these in conjunction with SPP engineering staff.

SPP Engineering Internal Spot Check - 2014

As part of the SPP Compliance Department's Evidence Review Team, we have reviewed the Reliability Standard Audit Worksheets (RSAWs) and compliance evidence provided by SPP Engineering Department. A team review of this information will conclude the 2014 efforts in this regard.

Miscellaneous

Compliance is also working on a compliance staff distribution list for coordination from the SPP Planning Coordinator (PC) to contacts identified by the standards. This was a request from the Regional Compliance Working Group (RCWG) and has been completed.

CIP Standards and IT Department Support
Senior Security Analyst – Lesley Bingham
Security Analyst II – Kevin Molder
Security Analyst II – Matt Roberson

CIP 5 Transition

The CIP V5 Transition Program requires participation at both the SME and participant level. The Compliance project includes a revision of asset lists, a revised termination and transfer process as well as building and delivering role-based training. SME responsibilities are required in the Business Process Improvement, Physical Security and IT Readiness projects.

Many CIP compliance documents are owned and maintained by stakeholders outside the Compliance Department, but many are ours. The annual review and approval process for those is underway. Additionally, spot checks of CIP standards are being done and will be completed by the end of the calendar year.

Ongoing Training Support

New Hire training for all employees as a part of their initial onboarding and a presentation on the Compliance Department's activities and compliance responsibilities will be conducted as needed. SPP's Security Awareness Training that employees and contractors take through the SPP learning Management System (LMS) is current. Member training, which is provided to key contacts that need access to SPP resources, is also current at this time. Both will be updated in 2015.

Audit Follow-Up

SPP is waiting on a final report from SERC. Resources in IT and other stakeholder areas will be coordinated to review upon receipt.

Identity and Access Management

A business plan is in the final stages of preparation and is being written to support the deployment of an automated Identity and Access Management (IAM) System at SPP. The current processes in use for both the Service Organization Controls (SOC) and CIP User Access Reviews are predominately manual, very time consuming, difficult to perform and are subject to human error. Deployment of an automated IAM system will help reduce both cyber security and compliance risk at SPP and improve overall efficiency for the Compliance team and other SPP staff and departments.

The business plan for the Identity and Access Management System (IAM) has been completed and reviewed by SPP management. Vendor solution demonstrations have been scheduled with five vendors and are to commence on December 8, 2014 and end on January 12, 2015. After a review of the solutions presented, two vendors will be chosen for a formal Proof of Concept (POC) of their systems that should be completed during the second quarter of 2015.

Security Monitoring Upgrades

Compliance team Security Analysts are participating with a team composed of Compliance and IT team members to conduct a POC for the purpose of evaluating a replacement for the current Security Incident and Event Management (SIEM) system. The POC for one of the two prospective vendors has been completed and the second is underway. Upon completion, a new SIEM will be chosen for deployment in 2015. Once identified and implemented, Security Analysts will be taking training on how to support and use the system for compliance and security purposes.

SPPEX

See end of document for full length article.

Balancing Authority (BA) Activities
Lead Compliance Analyst – Lonnie Lindekugel
Compliance Analyst II – Melissa Rinehart

SPP BA Internal Spot Check - 2014

We are currently performing spot checks for BAL-001 through BAL-006 standards to ensure ongoing BA compliance. These checks include validation of member data submission and various receipts and processing steps at SPP. Verification of frequency and True Time meter calibrations is also an ongoing collaborative effort between Compliance and Operations staff.

Legacy BA's

Continued support of the Consolidated Balancing Authority Steering Committee (CBASC) (in current and future roles) will be an important part of our legacy BA validation and auditing processes.

Registration / Deregistration

Member Registration and Deregistration was performed and completed when SPP became the sole BA. By giving the necessary assistance and guidance throughout the process, the burden was eased on the members.

Internal and External Training Participation
Lead Compliance Analyst – Lonnie Lindekugel
Lead Compliance Analyst – Mark Robinson
Regional Compliance Analyst – Ron Losh

SPP RSAW and Evidence Training

An internal outreach event for SPP Operations staff was held to review best practices on RSAW compilation, RSAW narratives, and primary and secondary evidence gathering.

MISO South Region EOP Workshop

With SPP and MISO having areas that work together in the RC and BA neighboring seams items, our attendance at the workshop provided avenues of communication for a focus on consistency, improvement opportunities and areas of collaboration.

SERC Compliance Forum

30 members from around the SERC Enforcement Region attended the compliance forum which provided us with the opportunity to build relationships within the region that audits SPP. The agenda focus was on the 2015 implementation plan and new program developments.

MRO Compliance/Enforcement Conference

Over 100 people attended the annual MRO Compliance/Enforcement Conference, which included, presentations regarding NERC's Reliability Assurance and Risk-Based Registration Initiatives, MRO's 2015 Compliance Monitoring and Enforcement Implementation Plan, and MRO's Approach to the CIP v3 to v5 Transition.

With the anticipated integration of the IS Entities (Western, Basin, and Heartland) into the SPP RTO footprint in 2015, the Conference also afforded SPP the opportunity to continue building relationships with MRO and SPP members, present and future.

Tariff Review and Support

Senior Compliance Analyst - Alison Hayes
Compliance Analyst II – Melissa Rinehart

Tariff Review Project

The Tariff Review Project continues with the help of Project Management. A task force of department Directors and support staff is actively engaged in the process. Project completion is scheduled for March 31, 2015. Phase I, identifying section owners, is over 90% complete and evidence submittal has begun for Phase II. The project team is beginning to review evidence and document results. This phase will certainly take the most time and man hours. The Compliance Department SMEs are assisting with evaluating evidence and determining compliance. A tracker system is in place to identify Tariff Sections owners and evidence in support of compliance. As a result of the Tariff Review Project, ideas are circulating on designing an ongoing Tariff oversight methodology utilizing the existing tracker. That activity may include adding random Tariff spot checks like the 693 spot checks the Compliance Department already performs. Mandatory Tariff provision training for some departments has also been suggested as supporting corporate compliance.

Regional Compliance Outreach Program (RCOP)
Compliance Outreach Coordinator – Kim Van Brimer
Regional Compliance Analyst – Ron Losh

Operations Training Working Group (OTWG)

PER-005-2 R5 focuses on Operations Support Personnel whose job impacts the Bulk Electric System (BES). This requirement is gaining attention as some entities indicated they could not find any function that directly fits the definition of Operations Support Personnel. We have identified 12 possible functions that touch operations by the standards. This finding has been supplied to our member entities through the outreach program and will be a topic on the spring Forum agenda.

Functional Registration

An SPP Member Entity that has a total of 23 UFLS relays for 20 of their members that are under 18 mw. The SPP requirement calls for >25mw. The result is that those members under this entity would not be registered under NERC. With the entity having a total of 38 UFLS relays, removing 23 UFLS relays from service will be shown as a cost savings of \$1,500.00 per relay test or \$34,500.00, which cuts the compliance burden by more than 50 percent.

Mitigation Assistance

Mitigation assistance provided to a member entity resulted in one violation to the Find, Fix and Track (FFT) program and the other violation being completely dismissed. Standards included TOP-004 R4 and TOP-008 R4. The dollar amounts and resource time savings were significant.

Entity Evidence Reviews – 2014

2014 finished with the completion of Eight (8) Operations and Planning (O&P) and Five (5) CIP Entity Evidence Reviews.

Entity Evidence Reviews - 2015

Seven (7) O&P and Three (3) CIP Entity Evidence Reviews are on target for those Member Entities that will be undergoing Audits in 2015. Staff will be structuring those reviews with Reliability Assurance Initiative (RAI) guidance documents and Internal Controls.

CIP Version 5 -2015

A CIP "Road Show" is in the planning stages as the SPP RTO and SPP RE will collaborate efforts to reach the member entities with CIP Version 5 guidance and direction.

Outreach and CIP Collaboration Training - 2015 **Compliance Outreach Coordinator – Kim Van Brimer** **Security Analyst II – Kevin Molder**

With the collaboration of the Regional Compliance Outreach Program (RCOP) and the CIP Compliance Team, we will be hosting a Cyber Incident Response Training in Q2 of 2015. This training was a Member Outreach Request as well as an action item from the Oversight Committee. Efforts are underway to solidify dates and trainers.

More details including the course outline is provided at the end of this report.

Compliance Support Site (CSS)

The launch of the redesigned Compliance Support Site (CSS) is targeted for Q1 2015 for approved compliance contacts. Currently, a trial period with the RCWG voting members is underway to focus in on areas that could improve the site and increase the participation. A key highlight for the tool is a real-time chat feature targeting specific categories and instant notification.

Request Tracking

With Member Entity ad-hoc questions reaching close to 75 per quarter, a formalized program utilizing the SPP Remedy System will be implemented in Q1 2015 to more efficiently track, follow up and share information via the CSS.

Upcoming Outreach Dates

The final newsletter of 2014 will be sent out on December 1. January 9 will be the first Compliance Call of 2015. March 11 and 12, 2015 will be the next Compliance Outreach Forum here at the SPP Corporate Center in Little Rock. Incoming Members from Western, Basin Electric and Heartland will be among those attending. A separate Meet and Greet for the new members will be part of the Forum agenda.

SPP Working Groups **RCWG – Kim Van Brimer- Staff Secretary** **CIPWG – Lesley Bingham - Staff Secretary** **EAWG – Mark Robinson - Staff Secretary**

Regional Compliance Working Group (RCWG)

The RCWG recently met on September 29, 2014, in Oklahoma City, OK. The meeting was held in conjunction with the week-long activities of the SPP RE Workshop and the SPP RTO Forum. Our next meeting will be hosted by Westar Energy in Topeka, KS on March 31, 2015.

A presentation to MOPC on the overview of the group's focused activities for 2015 will be given in Q1.

The RCWG is currently working with the SPP Generation Working Group (GWG) on the SPP Criteria Section 12.1 as documented in the Criteria Revision Request Form 14. Initial comments were drafted and sent in letter format to the Chair and Vice Chair of the GWG. The RCWG believes most of the language in Criteria 12.1 is no longer necessary now that NERC Standards FAC-008-3 and MOD-025-2 are approved.

Events Analysis Working Group (EAWG)

Through November 1, 2014, the EAWG has worked with the SPP RE in the review of 21 events during 2014.

As part of its efforts to share lessons learned with SPP's entities, on October 2, 2014, the EAWG hosted a member of the NERC Protection System Misoperations Task Force to discuss Misoperations caused by communication failures, and recommendations for actions to be taken to reduce the number of Misoperations.

Critical Infrastructure Working Group (CIPWG)

CIPWG Chair Stepping Down

The SPP CIP Working Group has come to the end of an era in 2014. In December, **Robert McClanahan** will be stepping down as the CIPWG Chair. Robert has been the Chair since the CIPWG formed in April of 2007. His leadership, humor, and industry knowledge has served the group very well. He will remain a voting member of the group and an enthusiastic participant.

Eric Ervin, Westar Energy, will be stepping into the role of Chair and will continue the high standard set by Robert. "I've worked with Robert over the past four years and am looking forward to continuing Robert's vision for the CIPWG and furthering the alliance between SPP and the Member Entities.

Robert knows that while each company has their own path; each is headed in the same direction and face the same pitfalls. He wants everyone to have a safe journey and is passionate about sharing experiences and information. Even though he won't be the Chair, I'm certain that he'll be an active and vital part of the group.

Thank you Robert for seven great years!

Respectfully Submitted,

**Kim Van Brimer
Compliance Outreach Coordinator**

Ready, Set, Exercise: SPP Hosts Successful Incident Response Simulation

SPP defended itself against a cyber-attack Monday. While the attack was a complete simulation, the lessons learned were quite real.

The SPPEX exercise was a test of SPP's Cyber Incident Response and Disaster Recovery plans. The test was a success for SPP and for our members.

The exercise started at 9 a.m. Nov. 17 with a hypothetical problem from a software patch released by "Acme ICCP," a vendor created for the exercise. The patch contained malware that caused an outbreak to spread through Inter-Control Center Communications Protocol (ICCP) channels.

Throughout the day, John Gunter, the voice of SPP Regional News, provided participants with updates on the malware's impact and severe storms in the region. Members maintained communication during the events through a chat tool allowing them to have a quick view on other players' actions.

If an action would lead to contact with an external party, members were directed to a simulation of that entity through contacts called sim cells. These were intended to receive information and give members a quick response. We were fortunate to have the sim cell for law enforcement staffed by special agents from the Little Rock FBI Field Office. We also had a resource from the Arkansas Department of Emergency Management assist on the emergency management sim cell. SPP's Lonnie Lindekugel, Kevin Molder, and Mark Robinson staffed sim cells for the neighboring entities, technical contacts, and regulatory entities.

Arkansas Electric Cooperatives Corporation (AECC) came to SPP's campus for the event. An AECC facilitator led members through the exercise and activities customized for AECC staff and leadership. Right next door to them, the SPP participants were doing the exact same thing.

Mid-morning activities revealed the ICCP issue wasn't the only trouble spot. Major transmission lines were downed from a strong storm system. Participants got a break at lunch, but the afternoon kept them busy with the Wolf Creek Generating Station shutting down, as well as tornado outbreaks damaging facilities within each participant's operating area.

Adding to the story, media camped outside players' locations for an update on the storm damage. Two days later in exercise time (but mid-afternoon Monday), a well-tested, malware-free patch resolved the ICCP problems. The transmission lines and facilities weren't rebuilt by that time, even in the exercise.

Would these events happen in real life? Not all at once, but any of them could happen. Were they far more challenging than we would see in real life? We certainly hope so.

The exercise's important lesson is that our departments rely on each other as much as our members do. That was a takeaway that City Utilities of Springfield saw clearly. John Allen, manager of Reliability Compliance, said this exercise gave his IT and operations staff a good opportunity to learn about each other's jobs. Reviewing recovery plans together gave each team an opportunity to test itself in abnormal circumstances. Participating in this exercise will also help SPP and those members who joined us prepare for Grid Ex III in November 2015.

NERC started holding national disaster and cyber exercises in 2011, and it plans to have them every odd year (2013, 2015, etc.). SPP has participated in previous years, along with many of our members in the 2013 exercise

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Course Description

Overview

Computers and servers in the United States are the most aggressively targeted systems in the world, commonly threatened by terrorists, nation states, or terrorist sympathizers. Despite this growing threat level, training to counter these attacks has failed to increase in response, leaving our nation's critical information technology infrastructure exposed and vulnerable to attack.

To fill this gap in training, the Cyberterrorism Defense Analysis Center (CDAC) created the Cyberterrorism Defense Initiative (CDI), a comprehensive, transferable, and inexpensive cyberterrorism training for public and private sector technical personnel and managers working within our nation's critical infrastructure. CDI focuses on training network and data personnel responsible for the protection, preservation, response, and recovery of computer-based resources in their respective agencies.

CDI Affiliations

The Cyberterrorism Defense Analysis Center (CDAC) of the Center for Information Technology and Engineering (CITE) administers the CDI program and all its courses. CITE is a division of the Criminal Justice Institute (CJI) of the University of Arkansas System. The United States Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Training and Exercise Integration/Training Operations (TEI/TO) fund CDI.

Scope

Cyberterrorism First Responder (CFR) is one of a series of courses that CDI provides, and is offered free-of-charge to technical personnel and managers working within agencies or organizations considered as a part of our nation's critical infrastructure. It utilizes a blended learning approach that balances classroom lecture, hands-on laboratory exercises, and supplemental material.

The CFR course is designed to prepare first responders to effectively and efficiently act to counter cyber-based terror attacks against our nation's internet, communications, and network-based infrastructure. This is an intense, hands-on course for skilled technical personnel who meet specific technical prerequisites, and are responsible for responding to agency assistance calls for potential cyberterrorism activity.

CFR courses use blended learning methods, balancing classroom lecture and hands-on laboratory exercises. The course uses cyberterrorism response tools to stimulate cyberterrorism attacks against significant national network infrastructure targets. Since the provided training level is so high for this course, the number of potential students will be limited. The students will be screened to ensure that they meet specified prerequisites.

CFR classes stress a proactive approach to providing computer, network, and infrastructure incident response handling. Solutions and methods taught are non-vendor-specific. They do not require participants to have specialized software when trying to implement class lessons at their own agencies. CDI stresses proper network and data engineering techniques and methodology over simple software packages, keeping agency financial requirements to a minimum.

Students will be introduced to a wide variety of incident response information and methods including, but not limited to:

1. Define the steps for handling specific types of cyberterror incidents, including incident assessment, detection and analysis for security incidents, and the containing, eradicating, and recovering process from a system, or network-based incident.
2. Identify, define, and practice first-hand the many tools and resources required in the cyberterror incident response process that the first responder must bring to bear in order to accurately and successfully detect, analyze, and mitigate a cyberterror incident.
3. Describe the Cyberterror First Responder (CFR) process, to include emergency assessment, emergency containment, emergency eradication, emergency restoration, post-emergency response, and the hand-off.
4. Describe the follow-up, secondary incident response techniques, and the proper integration of these activities into the CFR process.
5. Define the proper techniques used to properly review, critique, and build upon the CFR process through a series of review meetings and lessons-learned methods.

Target Audience

Classes are open to technical personnel and technical managers within the public or private sectors affiliated with an agency or organization considered as part of our nation's critical infrastructure.

Prerequisites

This course is an advanced level hands-on course where specific network and security knowledge and experience are required. Alternative experience may be considered in lieu of listed requirements, based upon seating availability and review by CDI admissions staff.

Minimum Prerequisite: A minimum of 3 years experience as a system/network administrator or as a cybersecurity professional is required. An intermediate understanding of network concepts, to include TCP/IP and Domain Name Services (DNS), along with general knowledge of computer operating systems is also required.

-or-

Preferred Prerequisite: Completion of the CDI Course, Incident Handling and Response; any experience with handling cyber incidents; plus, a minimum of 3 years experience as a system or network administrator, or a minimum of 4 years experience as a cybersecurity professional

Course Length

CFR is a four-and-a-half day course, 8:00 am to 5:00 pm from Monday through Thursday, and 8:00 am to 12:00 pm on Friday.

Required Materials/Facilities

Mobile Training Lab

CDAC will primarily deliver the CFR training program using an easily transportable, laptop training center that operates via wired and wireless network technologies. This laptop training lab can be shipped and set up for training anywhere in the country with minimal notice. There are thirty-two (32) laptops for each class, and each laptop is preconfigured with hands-on

exercises that immerse students in real-world cyberterrorism examples. Each laptop is installed with various operating systems and virtual machines to heighten the students' awareness, test their preparation methods, and educate them on the cutting edge threats used during cyberterrorist attacks.

Meeting Space Requirements

- Each class will be made available to (32) participants maximum. All classes will be instructor driven and the instructor will be assisted by a CDAC technical staff member. The primary responsibility of the CDAC staff member is to provide hands on instruction to any of the class participants who need assistance in completing the lab exercises.
- Desired dimensions for the classroom are at least twenty-eight feet wide by forty-six feet long (28' x 46').
- Setup will be in a classroom style. Tables covered and skirted will be optional.
- Tables used in setup of the rooms must be at least eight feet (8') in length and two to two and a half feet wide (2'-2.5') to accommodate three (3) students per table along with their assigned laptops.
- Two tables with three chairs in the rear or side of each classroom for staff.
- Two registration tables with one chair per table will be needed for registration. One table per classroom, covered and skirted, located outside of the classrooms, if possible.
- Each meeting room requires a projection screen and podium which is either provided by the facility or CDAC equipment will be used.
- If possible, access to heat/air controls for rooms from 7:00 a.m. to 6:00 p.m.
- If available, an American flag and a state flag are requested to be placed at the front of each meeting room.
- The CDAC team requests that each classroom be secured in order to allow for the equipment to be left in place overnight, which avoids moving approximately thirty two (32) laptop computers and miscellaneous related equipment into the meeting rooms every morning and returning them to the storage room every night.

Meeting Room Technical Requirements

- Each meeting room requires two (2) 20-AMP electrical circuits located in the front of the room to accommodate the amount of electronic equipment that will be used.
- Each meeting room requires a hard-wired high-speed internet connection with a minimum of 256 kb per second bandwidth. Wireless internet connections will not accommodate our equipment. The host facility is requested to provide two (2) Static IP Addresses and one (1) Default Gateway address and the Subnet Mask per meeting room.
- It is preferred that no firewall exist between the CDI labs and the internet. If there is a firewall in place, it must be configured to pass TCP and UDP traffic across the following ports: 43-WHOIS, 53-DNS, 79-FINGER, 80-HTTP, 110-POP3, 123-NTP, 443-SSL.
- A technical person is requested to be available on Sunday at a prescheduled and prearranged time, and available on an on-call basis throughout the week. This person should be knowledgeable of the facility network, the internet access, and have some

electrical knowledge. That person should also have access to network closets and electrical closets if any minor adjustments are warranted. If the meeting rooms use an ISP for internet access, we will also need the point of contact information as well.

Testing/Certification

The assessment of the course is done with a pre-assessment test and a post-assessment test, which are designed to calculate the overall percentage of improvement of each course participant. The pre-test is given on the first day of CFR, and the post-test is given on the last day of class. A percentage score for each student is calculated based on the difference in correct answers. It's our goal for students to achieve 70% correct answers when completing the post-assessment questionnaires.

Reference List

Internet Security Threat Report – 2014
Symantec Corporation
Volume 19
Appendix - 2014
www.symantec.com

W32.Stuxnet Dossier
Nicolas Falliere, Liam O. Murchu, and Eric Chien
October 2010
www.symantec.com

Global Energy Cyberattacks: "Night Dragon"
McAfee Foundstone Professional Services and McAfee Labs
February, 2011
www.mcafee.com

Evaluation Strategy

When training ends, each course participant will complete a course evaluation. Their evaluation gives us feedback about the overall course satisfaction.



Southwest Power Pool, Inc.
INTERNAL AUDIT
Report to the Oversight Committee
December 8, 2014

Staffing

- The Internal Audit department is fully staffed.

Activity Update

- Audit Charter - Updated (see attached)
- 2014 Audit Schedule – Updated (see attached)
- Audits Completed Since Last Meeting:

- **Off We Go LLC – Aircraft Ownership Cost Review (Rate)**

The Internal Audit department has completed a review of costs and consumables in support of the November 2014 rate adjustment charged for use of the Off We Go, LLC private aircraft. The review was completed, in part; to fulfill Southwest Power Pool, Inc.'s (SPP) commitment to FERC Office of Enforcement's recommendation that SPP should *"perform an analysis to validate the fairness and reasonableness of any cost factors submitted by the CEO and CFO for purposes of reimbursement."*

See attached for summary.

- **Off We Go LLC – Invoice Reimbursement Review (5/1/14 through 10/31/14)**

The Internal Audit department performed a review of reimbursements made to Off We Go, LLC for use of their private aircraft for the period of May 1, 2014 through October 31, 2014. In addition, we reviewed Off We Go's insurance policy to confirm it meets the requirements listed in the Private Aircraft section of SPP's Expense and Travel Policy.

See attached for summary.

- **Enterprise Disputes Process**

Internal Audit completed a review of Southwest Power Pool's (SPP) Enterprise Dispute process with the focus on financially impacting dispute processes. The purpose of this review was to confirm that the processes are supported by current and complete process documentation sufficient to support the process purpose and deliverables.

See attached for summary.

- Reviews Currently in Process:

- **Remedy System**

The primary objectives of the review are to: evaluate the system design, development, testing and rollout of the Remedy 8.1 upgrade; review input and output data for accuracy, completeness and authorization; determine whether data is processed as intended and in an acceptable time period; confirm whether the data is stored accurately and completely; assess audit logs/trails to see whether a record is maintained that tracks the processing of data from input to output to storage; examine the change control and maintenance process for the system; and review the administration of the application including security and configuration elements. The review is in the testing phase.

- **SPP Compliance Program**

The purpose of this review is to evaluate the efficiency and effectiveness of SPP's Compliance program. Specifically to ensure the program is adequate and approved by Senior Management; compliance training for relevant staff is occurring; regular self-audits of SPP, Inc. (including spot checks, mock audits, documentation/data requests and email/log reviews) are performed; self-assessment and self-enforcement actions to prevent reoccurrence of potential or actual violations are completed; and results of external reviews conducted per Member request are adequate. The review is in the reporting phase.

- **Project Expense Reporting**

The audit includes a review of the current operating environment in place for reporting project expenses to determine whether adequate controls are in place to ensure that project goals and objectives are met in both a timely and cost effective manner. The primary audit objectives are to review: the adequacy of existing processes and procedures related to project expense reporting; the adequacy of existing processes and procedures related to budgeting for approved projects; the accounting methodology in place for capitalization of project related expenditures and interest incurred; and project management reports that reflect project status and projections to completion to verify that costs are properly allocated, reported and forecast. The review is in the testing phase.

- **Software Licensing**

The primary objectives of our review are to: review the policies and procedures in place for software assets and licenses and evaluate them as related to license requirements for thorough coverage; examine existing software asset and license processes and evaluate for completeness and accuracy; assess current software licensing agreements and determine whether all necessary requirements are adequately met; evaluate the current internal controls implemented over software assets and licenses as related to the applicable licensing requirements and obtain an understanding of the roles and responsibilities related to the monitoring of the software assets and licenses through the acquisition, certification, deployment, support, removal and disposal phases. The review is in the testing phase.

- **Transmission Settlements**

The primary review objectives are to confirm: sufficient processes and procedures are identified, documented and followed for Transmission Settlements to protect the interests of SPP, its members and customers; internal controls are adequately designed and operating effectively; requirements related to transmission settlements are complied with in accordance to SPP governing documents; processes have been reviewed and adequately updated for all changes made in relation to the Integrated Marketplaces being implemented; and all data required for settlement calculations are being received accurately and timely in order to ensure proper settlement timelines. The review is in the reporting phase.

- **SPP Modeling**

The primary objectives of the review are to: compile a master list of models maintained by SPP Staff that support SPP business functions; obtain an understanding of interdependency of models; determine requirements related to models comply with SPP governing documents; review sufficient processes and procedures for models are in place, documented and followed to protect the interests of SPP, its members and customers; determine sufficient processes and procedures are in place to remove data from models accurately and timely; review validation methods and documentation for manual and automated model updates/data changes; determine downstream consumers of data/model updates are receiving data completely and timely; review the change control and maintenance processes over modeling tools, backups, versioning, and security access and, determine whether any additional controls are needed; and identify confidential material and determine it is adequately protected. The review is in the testing phase.

- **Tariff Administration**

The primary objectives of the review are to: obtain an overview of the various functions completed by the Tariff Administration department, industry standards that must be followed, and downstream data users; review the policies and procedures in place for functions performed by Tariff Administration and evaluate them for thorough coverage to protect the interest of SPP, its members and customers; examine internal controls for adequate design and effective operation; confirm required documentation/evidence is stored accurately and completely; determine downstream consumers of data are receiving data accurately and timely. The review is in the testing phase.

- **HR Payroll**

The primary objectives of the review are to verify: proper processes and procedures are in place, documented and functioning properly; internal controls are adequately designed and operate effectively; payroll and employee information is properly secured and access is restricted to appropriate personnel; proper procedures are in place to verify compliance with applicable laws and regulations; documentation is complete, proper and retained to support payroll; calculations of earnings, special payments, employee benefits and voluntary/involuntary deductions are approved, accurate, complete and

authorized in a timely manner; tax and non-tax reporting requirements are in compliance with applicable federal/state laws; accounting for payroll transactions are properly classified, reconciled, approved and posted to the general ledger; adequacy of system and manual check processing including functions/information (if applicable); existence of adequate segregation of duties; completeness of personnel files, adequacy of supporting documentation for changes to employees profile, and timely reporting of employee information (new hires, terminations, merit increase, etc.); systems used for payroll have appropriate access, are operating accurately and manual inputs are reviewed for accuracy. This review is in the testing phase.

- **Market Settlements**

The primary objectives of the review are to ensure: sufficient processes and procedures are identified, documented and followed for Market Settlements to protect the interests of SPP, its members and customers; internal controls are adequately designed and operating effectively; requirements related to market settlements are complied with in accordance to SPP governing documents; processes have been reviewed and adequately updated for all changes made in relation to the Integrated Marketplaces being implemented; any concerns or gaps have been identified and resolved; manual processes, procedures and work-arounds are documented and have adequate controls to mitigate risk to SPP, SPP's members and customers; re-pricing process is documented and working as intended in POPS. This review is in the testing phase.

- **Procurement/Accounts Payable**

The primary objectives are to ensure: appropriate documentation is in place to support accounts payable and procurement transactions; purchases and payments are properly authorized and recorded; payments to vendors are for goods and/or services received and are made in a timely manner; processes are in place to prevent duplicate, unauthorized or inappropriate payment to vendors; system access is appropriate for employee job duties and updates to vendor files are limited to authorized personnel only; vendor selection is objective and transparent, satisfying both technical and economic evaluations. This review is in the testing phase.

- **Reviews Currently in Planning**
 - Balancing Authority
 - Digital Certificates
 - Pension Plan / 401(k) / SERP
 - Corporate-Wide "Manual Workarounds"
- **Upcoming Reviews/Audits:**
 - Digital Certificates
 - Collateral Management
 - Privileged Accounts

- Market to Market Internal Readiness
- Regulation Compensation Internal Readiness
- Long-term Transmission Congestion Rights (LTCR) Internal Readiness
- Change Management Monitoring Tools
- Customer Additions/Terminations
- Grandfather Agreements (GFA) / Federal Statutory (FSE) Exemptions GFAs
- Post Operations Processing System (POPS)
- Study Deposits, Invoicing and Customer Refund Tracking Process
- Project Pinnacle:
 - Staff engaged in Integrated Marketplace Phase II project work
 - Staff assigned to each project to provide guidance concerning process development/documentation, internal controls and SOC1 audit controls (as applicable).
- Other Activities
 - Controls audit (SSAE 16/SOC1) work:
 - SOC 1 Type 2 Audit:
 - Completion of periodic control activity reviews:
 - ❖ 76 completed to date, 0 in process (76 total control activities)
 - ❖ 30 completed to date, 0 in process (30 total control activities)
 - Facilitated/coordinated external auditors on-site visit in October 2014
 - ❖ Communicated and acted as liaison between KPMG and control owners
 - ❖ Collected and reviewed additional audit item requests
 - ❖ Reviewed and updated SPP's portion of audit report narrative
 - ❖ Facilitated completion of SPP's Management Assertion and Management Representation Letter
 - Other consulting/advising:
 - Credit Stack process
 - Grandfather Agreement LEAN project
 - Tariff review process
 - Termination of Market Participant process
 - CIP Version 5 Program
 - Engineering Quality Assurance LEAN project
 - Reliability Assurance Initiative (RAI) controls training for standards related processes/procedures
 - Unreserved use of the transmission system - SPP processes/procedures

Respectfully submitted,
Lauren Krigbaum
Director, Internal Audit

MARKET MONITORING Activity

REPORT to the Oversight Committee

8 December 2014

I. MMU Staffing

- MMU department restructuring is complete with the promotion of Catherine Mooney to the position of manager. She is now responsible for investigations, special studies, and market design issues. Catherine's previous position is now open and we are in the process of conducting interviews.

II. Federal Energy Regulatory Commission (FERC)

- Conference calls with FERC staff continue to be weekly. All aspects of the Integrated Marketplace are discussed; special studies, market efficiency, market anomalies, Market Participant participation in new markets, Market Working Group issues, and market screen results.
- Catherine Mooney participated in the October 28 FERC Workshop on Mitigation along with market monitoring representatives from the other RTOs.
- The MMU has been encouraged by FERC to become more active in filing comments in dockets before the Commission. Comments were recently filed in Docket ER 15-21, regarding the process for identifying physical withholding. Catherine Mooney and John Hyatt are currently working on supporting testimony for three Tariff changes to be filed by SPP in December.
- Six FERC staff members visited SPP for two days of education and discussion during October. SPP staff and MMU staff presented on a variety of topics including Market Monitoring, Operations, and Transmission Planning.

III. Market Studies

- The MMU has initiated four behavior studies since June. Three of the four studies are closed.
- The MMU will be analyzing the offer mitigation conduct thresholds and discussing with the Mitigated Offer Task Force and the Market Working Group.

IV. Reporting

- MMU continues to expand the content included in the Integrated Marketplace Quarterly State of the Market reports. The Fall QSOM report (September/October/November) is scheduled to be released by the end of December.
- MMU continues to develop monthly market review presentations that are given to the MWG and FERC.
- Work will soon begin on the first Annual State of the Market Report for the Integrated Marketplace. This will be a major project for the entire MMU in the

first quarter of 2015. The report will include a summary of MMU market recommendations.

V. Integrated Marketplace

- The Mitigated Offer Task Force (MOTF) work is close to being complete. The Task Force approved MPRR 197 and MPRR 213 and passed it on to the MWG.
- The MMU is required to update the Frequently Constrained Area designations on an annual basis. The 2014 study is near completion and the stakeholder review process will start in December.
- There was only one Day Ahead Must Offer Requirement violation over the last three months compared with three for the summer months.

VI. Miscellaneous

- MMU external review as required in the SPP Tariff has been moved to 2016 and the funding has been removed from the 2015 budget.
- In October, five MMU staff members attended the Energy Inter-market Surveillance Group conference. We participated in discussions and presented a short overview of SPP's Market status and SPP's Mitigation
- Two MMU staff members visited with the ISO NE Market Monitors for two days of training and lessons learned. One of the key participants was the ISO NE MMU director who also spent 15 years as a Market Monitor in California

Respectfully submitted
Alan McQueen
Director, Market Monitoring and Analysis

POSSIBLE TOPICS FOR THE 2015 LOOKING FORWARD REPORT FOR DISCUSSION AT THE DECEMBER 8, 2014 MEETING OF THE SPP OVERSIGHT COMMITTEE

I. EPA's Continued Environmental Campaign (Update based on new information)

The EPA continues to be a driving force in the shutdown of coal-fired generation which is reshaping the power sector. This chapter will provide an update on the impacts of existing regulations and then turn to the status and potential impact of upcoming and proposed regulations. The proposed regulation with the largest potential impact is the Clean Power Plan, proposed June 2, 2014. That plan cuts greenhouse gas emissions from the power sector by 30 percent from 2005 levels by 2030.

- A. Examine the impact of existing regulations such as the Regional Haze rule and Mercury and Air Toxics Standard by providing a table and description of estimates of the amount and location of coal generation retirements that will occur through 2019.
- B. Examine the status and potential impact of EPA's Clean Power Plan by drawing on independent reports, including analysis from RTOs/ISOs. This discussion includes analysis of existing multi-state cap-and-trade markets to illustrate the compliance options.
- C. States may comply with the Clean Power Plan via regional cap-and-trade markets that will price greenhouse gas emissions. To examine greenhouse gas pricing, this section presents a table and short discussion of existing cap-and-trade markets, such as RGGI and the California Cap-and-Trade Program, and pricing assumptions used by electric utilities and other major companies in their corporate planning.
- D. This chapter closes by providing a detailed status report on other proposed and upcoming EPA regulations such as updates to NAAQS, CSAPR, coal combustion residuals rule, cooling water intake regulations, and effluent limitation guidelines.

II. The Shale Gas Revolution (Update based on new information)

As the Shale Gas Revolution continues, based on new reports and data, we will update our discussion of the implications of shale gas from four perspectives:

- A. What is the supply picture for shale gas (and oil)? We will update the supply picture in terms of well productivity, gas and oil reserves, prices over the past several years, and the economics of different shale plays. This will include updated information from EIA, ICF, Black and Veatch, and LCI Energy.
- B. What are the threats to shale gas and oil? We would examine some of the most pertinent threats, including potential water regulations from the U.S. EPA, state

- regulations on fracking (e.g., Colorado), and continued earthquakes in drilling areas (e.g., Oklahoma).
- C. What is shale’s impact on new pipeline development and expansion? Without sufficient pipeline capacity, the Shale Gas Revolution can seemingly pass entire regions by (e.g., New England) or, ample supply may be ready to serve ample demand located miles away, but cannot do so due to lack of sufficient pipeline, as in Pennsylvania, where prices have been prices are dramatically lower near wellheads. In New England, rising natural gas prices and electricity prices have not been enough to get new pipelines built, while in Florida – geographically similar to New England as a natural gas “island” with limited pipeline supply – a more favorable regulatory regime and a need for more pipeline capacity has led to a \$3.7 billion, 700-mile new pipe proposal from Spectra and NextEra. We look for analysis of shale’s impact on new pipeline investment, including the SPP region.
 - D. What are the prospects for LNG exports? We will provide an update, including EIA projections, potential U.S. legislation encouraging new exports, and anecdotes from U.S. companies such as Cheniere Energy.

III. Update on the Changing Utility Model (Updated, Expanded Issue)

Previous Looking Forward Reports have noted increasing interest and discussion of changing utility business models. Such changes threaten both the efficacy of existing regulatory structures and billions of dollars of investment. This chapter will deepen the discussion from previous years by examining real examples of changing utility business models.

- A. Revisit the themes that we discussed last year that are driving renewed interest in utility business models. These themes include flat demand and rising rates, decentralization, smart grid, and cybersecurity. Add to that discussion nascent utility financing pressures (e.g. Barclays downgrade of electric utility bonds) and regulations on greenhouse gas emissions.
- B. Describe a variety of new business models from utilities and other entities in the electricity sector. These models challenge existing regulatory mindsets, the relationship between utilities and customers, and even the monopoly of the transmission grid.
 - o New York PSC’s “Reforming the Energy Vision” initiative seeks to increase the role of distributed generation in utility systems by having utilities function as an ISO for distributed generation (also discuss Con Edison of New York’s related efforts). This system would increase the responsibility for meeting energy demand that is shouldered by distributed generation and load.

- Solar installers such as SolarCity are adding battery storage to their solar installations. This is an early example of more fully capable off-grid energy supply solutions.
- Distributed generation, energy efficiency and demand response are being aggregated into “virtual” power plants that can be dispatched to offset the volatility in traditional distributed generation or even to offset the need for new generation or transmission development. Many new companies as well as existing utilities such as Duke Energy are working in this space.
- Increased availability of data on customer electricity use allows for new and improved demand-side optimization. Companies such as Enernoc , PowerIt and AutoGrid are applying advanced analytics on top of data and communications made possible by the smart grid to help customers better control and monetize their electricity use.
- Some utilities in deregulated states have recently moved away from generating assets to focus on the regulated returns available in transmission and distribution infrastructure (e.g. PSEG and FirstEnergy). This reflects the potential impact of electricity markets.

IV. Physical Grid Security (New Topic)

We teed up the issue of potential drivers toward a less centralized grid in our last Looking Forward Report, including the threat of cyber-attacks on our grid. This year, we examine physical grid security with a focus on the following topics:

- A. In light of the high-profile physical attack of PG&E’s high-voltage substation in 2013 and the leaked FERC report on the vulnerability of the U.S. grid, we will look for reports that analyze the vulnerabilities of our grid infrastructure and the impact a significant physical attack could have on the nation’s power supply. We will look at recent reports from Battelle and the Congressional Research Service.
- B. FERC and NERC have led the regulatory efforts to define new reliability standards for physical grid security. We will explain the current status of those efforts including the recently approved Reliability Standard CIP-014-1 that was developed to enhance physical security measures for the most critical bulk power system facilities.
- C. Could concerns of physical grid security be a driver of a less centralized grid? We will consider that question, plus look at utility efforts to respond to the threat of physical attacks.

V. Blurred Jurisdictional Lines (New Topic)

A new topic for this year's Report, we would highlight three significant issues related to the jurisdictional split between the States and the Federal government. Specifically:

- A. The D.C. Court of Appeals' decision to vacate FERC Order No. 745 effectively rejects FERC's attempt to regulate demand response in the wholesale energy market. We explain what this decision could mean for demand response going forward (e.g., compensation, participation), including in the SPP markets.
- B. Two separate U.S. Federal District Courts ruled that States cannot interfere with wholesale markets under Federal jurisdiction. We will include a discussion of potential problems caused by these Court decisions, especially for getting new power plants built. We will cite an APPA study showing that new investment is driven by long-term power purchase agreements, not short-term payments, we will discuss poor recent capacity market performance in the northeast, especially during the polar vortex, and provide highlights from NERC's most recent national and regional reliability assessment that illustrates capacity decreases through coal retirements, coal conversions, and nuclear retirements or mothballs.
- C. Could net metering be the next front in the jurisdictional divide between States and the Federal government? Are sales by retail customers back to the grid a wholesale or retail transaction? States are grappling with that answer, and we will provide updates from Wisconsin, Georgia, Massachusetts, and Wyoming.
- D. Given these jurisdictional challenges, we will look for an emerging theme that are driving conflict between state and federal regulators. For example, is the Federal Power Act antiquated, especially in light of emerging technologies and evolving power markets? We will consider thoughts from leading experts.

VI. Developments in Decentralization (Update)

Past reports discussed drivers of a less centralized electricity grid and explained various technologies that have been deployed in markets across the country (e.g., microgrids). This chapter provides pertinent updates on developments in decentralization, including:

- A. Changes in the cost of distributed generation, primarily solar and wind, but also emerging distributed generation sources such as hybrid fuel cells, solar panel windows, and storage devices (using data from the U.S. D.O.E. as well as studies from Navigant and Citi).
- B. The impact of distributed generation on transmission planning. As more distributed generation takes hold in organized markets across the U.S., transmission planners – like SPP – are well-served to take account of distributed resources in their planning and transmission expansion efforts. We use a study from Navigant on one utility's efforts to integrate distributed resources in its long-term planning.

- C. Provide an update on microgrids as a separate form of distributed generation. Examples of new microgrids include those at M.I.T. and in Vermont; recent changes in funding of microgrids has come from the U.S. D.O.E.; potential microgrid performance can be examined through the performance of the Princeton microgrid during the winter 2014 “polar vortex”.

VII. Smart Grid (New Topic)

Since 2010, public and private investments in smart grid technologies made under the Stimulus Act of 2009 have totaled over \$9 billion. This section explores the status of smart grid investment and technology, its impacts on the grid, and where the industry is headed.

- A. Offer a definition of smart grid, focusing on the implementation of two-way communications, use of digital information, and control ability that distinguishes it from conventional present-day grid technologies.
- B. Present metrics on the progress of smart grid implementation such as the number of “smart meters” there are, using the U.S. Department of Energy’s 2014 Smart Grid System Report and other industry reports.
- C. Provide examples of utilities using smart grid – and some utilities that have installed their smart grid technology but are not using it or not using it to its full potential. One use for this technology that is often discussed is dynamic pricing.
- D. Outline potential next steps for the use of smart grid technology, with a focus on developing use cases and the factors that will shape further uptake.

VIII. For Sale: SPP Wind (New Topic)

SPP has ample wind generation resources in its footprint and could benefit from selling its wind to other areas of the U.S. However, seams issues have thus far prevented meaningful transactions. We look for potential solutions.

- A. SPP’s wind resources across its footprint are substantial. We will use up-to-date statistics to show that SPP has ample wind resources and that SPP is doing all it can to encourage new wind investment (e.g., through market rules).
- B. Regarding demand, mandates often drive sales of renewable generation, like wind. States without renewable mandates may not be as willing to buy renewable power. In other instances, utilities may seek a more diverse resource portfolio. We will look for the status of renewable energy mandates, especially in the southeast, and we will look to an IHS study on the value of fuel diversity.

- C. Demand for renewable power can also be driven by economics, especially if wind achieves higher capacity factors and low variable costs. We will consider the economic picture for wind, including current data on market prices, costs, capacity factors, and also costs of transmission.
- D. One solution to move SPP wind to other jurisdictions is to construct a merchant transmission line, which offers the ability to move renewable power long distances to load centers. We will consider issues related to new merchant transmission to areas such as the southeast, including the proposed Southern Cross line.
- E. Another solution could be to work with existing transmission owners, including those external to SPP, but doing so could challenge seams issues between SPP and other control areas. Other jurisdictions may offer examples of creative solutions to seams issues. We will look to other organized markets (e.g., PJM-MISO) and internationally for useful examples.

SPP Organizational Group Self-Evaluation/Assessment
(August 2012 – July 2013)

GROUP NAME: **Oversight Committee**

CHARTER/SCOPE UPDATE: Attached Charter/Scope has been reviewed: **Yes**

MEMBER ROSTER/ATTENDANCE:

Member	Company	# Present	# Absent
Martin, Josh (Chair)	Director	4	0
Bernard, Phyllis E.	Director	4	0
Altenbaumer, Larry	Director	4	0
Duckett, Stacy	Staff Secretary	4	0

AVERAGE OVERALL ATTENDANCE (INCLUDING NON-GROUP MEMBERS): **12**

MEETINGS HELD TO DATE: **Live:** **4** **Teleconference:** **0**

AVERAGE LENGTH OF MEETINGS: **4:15**

NUMBER OF VOTES TAKEN: **4**

***MEETING COST(S):** **\$31,910.20**

** Meeting costs include hotel expenses (room rental, A/V, food and beverage), estimate of teleconference expenses, and Director fees for attendance.*

MAJOR ACCOMPLISHMENTS/ISSUES ADDRESSED BY THE GROUP:

1. Order 1000 process
2. MMU transition with Integrated Marketplace
3. Continued Compliance support/member outreach

MAJOR PENDING ISSUES BEFORE THE GROUP:

1. Order 1000 process
2. MMU transition with Integrated Marketplace/engagement with participants
3. Cyber security reporting

Oversight Committee		2014	2013	2012	2011	2010
Number of members		4	4.0	5	4	4
Number of responses		3	4	5	4	4
Response rate		75%	100%	100%	100%	100%
Overall effectiveness score		5	4.8	4.8	4.8	4.8
Lowest score						
Highest score						
Question		Average score				
		2014	2013	2012	2011	2010
The agenda reflects the actions to be taken during the meeting.		5.0	4.5	4.6	4.3	4.5
Meeting materials are provided in a timely manner.		4.7	4.5	4.4	4.5	4.3
The information provided prior to the meeting is utilized during the meeting.		5.0	4.3	4.4	4.5	4.5
The information presented in meetings is clear.		4.3	4.0	4.4	n/a	n/a
Meeting minutes are an accurate reflection of the meeting.		4.3	4.3	4.6	4.3	4.5
Additional comments:						
While the agenda structure and meeting content is good, improvement is needed in the effectiveness of the presentations related to market monitor activities.						
Membership represents the diversity of the SPP organization.		3.0	3.3	3.2	3.5	3.5
Membership has the necessary expertise and/or skills to accomplish its goals.		4.3	4.3	4.4	4.3	4.5
Members come prepared to meetings.		4.7	4.5	4.8	4.8	5.0
Members are committed to participate and accomplish the group's goals.		5.0	4.8	4.8	5.0	5.0
Members are supportive and respectful of the individual needs and differences of group members.		5.0	4.5	4.2	4.8	4.5
Additional comments:						
Members are engaged during the meeting.		4.7	4.8	4.6	4.3	4.0
Decisions are identified and action is recommended.		5.0	4.8	4.8	4.8	4.5
Facilitation is sufficient to guide discussion.		4.3	4.5	4.4	4.8	4.5
Dissenting voices are heard.		4.7	4.5	4.2	4.5	4.5
I depart with a feeling that we have accomplished something.		4.7	4.3	4.6	4.5	4.3
Additional comments:						
The meeting agenda is well-structured and focuses on appropriately important items.						
The chair seeks input, and organizational group members are able to influence key decisions and plans.		5.0	4.8	4.8	4.8	4.8
The chair is supportive and respectful of the individual needs and differences of group members.		5.0	4.5	4.8	4.8	4.5
The chair keeps the group on task to achieve appropriate outcomes.		5.0	4.8	4.8	5.0	4.8
The chair ensures follow-through on questions and commitments.		5.0	4.8	4.4	4.8	4.5
Additional comments:						
The Chair is a very nice person!						
The chair does an excellent job in running the meeting; he keeps discussions on topic; he insures that the objectives of the meeting are achieved and that necessary follow-up is done						
Please provide three or more recommendations for improvement of this particular group and/or SPP's overall						
As the responsibilities of this Committee increase, it will be important to assure that the Committee Charter remains current. The Committee should continue its heightened awareness of cyber security issues. The Committee should encourage outsiders, such as members to occasionally attend meetings.						
I wonder whether there would be an opportunity to conduct some committee training / development during one of the meetings each year. The annual session that focuses on the looking forward activity is very helpful, but I would be interested in a more in depth discussion of some relevant topic during one of the other meetings						
Other comments						
The committee is very effective in my view; it has good leadership from the chair, good participation from its members and very good support from the staff						