



Southwest Power Pool, Inc.
OVERSIGHT COMMITTEE MEETING
December 7, 2015
Executive Conference Room
SPP Corporate Campus, Little Rock, AR.

• A G E N D A •

9:00 a.m. – 2:00 p.m. CDT

- 1. Call to Order/Administrative Items Josh Martin
- 2. Action Items Report..... Michael Desselle
- 3. Quarterly Activity Reports
 - a. Compliance Mark Bowling
 - b. Internal Audit Lauren Krigbaum
 - c. Market Monitoring Unit Alan McQueen
- 4. Looking Forward Report..... Craig Roach
- 5. 2016 Audit Plan Lauren Krigbaum
- 6. Action Items..... Michael Desselle
- 7. Future Meetings Josh Martin

2016

March 24	Washington, D.C.
June 6	Little Rock
September 22	Chicago, O'Hare Airport
December 5	Little Rock, AR (day before BOD Organizational Effectiveness Meeting)

Executive Session

Southwest Power Pool**OVERSIGHT COMMITTEE MEETING****September 24, 2015****Chicago O'Hare Airport, Chicago, IL
AA Admirals Club, Terminal 3****• M I N U T E S •****Agenda Item 1 – Call to Order/Administrative Items**

Josh Martin called the meeting to order at 10 AM. Members in attendance included: Josh Martin (Director); Larry Altenbaumer (Director); and, Phyllis Bernard (Director). Additional Board members in attendance included Jim Eckelberger. SPP staff in attendance were: Michael Desselle, Ben Bright, Lauren Krigbaum, Mark Bowling, Alan McQueen, Barbara Stroope, Richard Dillon, and Paul Suskie. Additional participants dialed-in by phone (Attendance – Attachment 1).

Phyllis Bernard moved and Larry seconded adoption of the June 8, 2015 Oversight Committee meeting minutes which were unanimously accepted (Minutes 6/8/15 – Attachment 2).

Chairman Martin noted that item #5 on the agenda (Potential Role for Boston Pacific in 2016) would be moved up to accommodate scheduling concerns.

Agenda Item 2 – Action Items Report

Michael Desselle reviewed the Pending Action Items Status Report (Action Items Report – Attachment 3). Regarding Action Item #1 (Consider engagement of an outside firm to audit/assess MMU metrics and processes), Phyllis Bernard suggested a clarification to note that such engagement would occur after the conclusion of the FERC audit underway at this time.

Agenda Item 5 – Potential Role for Boston Pacific in 2016

Craig Roach (Boston Pacific) began his presentation to the Committee by noting that Boston Pacific (BP) is in its 12th year of serving the Board, this would be the sixth year in developing a "Looking Forward" report (Continuing Role for Boston Pacific Memorandum – Attachment 4). He proposed a similar "Looking Forward" report in quality and timing as the one prepared for the Board this year. Josh queried Committee members regarding any questions for Craig and reviewed the timeline for proceeding forward. Josh thanked Craig and noted that the Committee would take the proposal under advisement in Executive Session. Jim Eckelberger suggested one additional topic for consideration would be to get BP's insight and opinion of the issue of Mass- versus Rate-Based option associated with the EPA's Clean Power Plan. Larry expressed that the topics BP has raised in their reports over the years have been useful. He further noted that their report this year received a lot more positive comments and was an adjunct to the Board's strategic planning.

Agenda Item 3 – Update on Current Activities

Internal Audit – Lauren Krigbaum provided the quarterly report (Internal Audit Report – Attachment 5) for the Internal Audit department. She noted that the 2014-2015 Audit Plan has been updated to include an Identity Access Management audit at the request of the CCO and Director of Compliance. Lauren also informed the Committee on the outcomes of Audits and Assessments that have been completed since the June OC meeting, including: Digital Certificate risk assessment; Project Pinnacle readiness; and, the Aircraft Ownership Cost audit. She also discussed the progress of audits currently in process, including: the Software Licensing review; the Study Deposits Refund review; and, the Control Self-Assessment on

Oversight Committee Minutes September 24, 2015

SPP models. Lauren informed the Committee that the Modeling Control Self-Assessment will likely take a year to complete and responded affirmatively when asked by the SPP Board Chairman to include an assessment of the effectiveness of manpower and to look for efficiency and process improvements during the engagement. Finally, Lauren reported on the status of KPMG's SOC 1 audit progress.

Compliance – Mark Bowling reviewed the Compliance and Security Department report (Compliance and Security Department report – Attachment 6) of quarterly activities. As part of his report he responded with a more detailed explanation of the goal of the upcoming GridExIII Exercise.

Market Monitoring Unit Report – Alan McQueen provided his update on quarterly activities (Market Monitoring Activity Report – Attachment 7). He reported that the MMU is fully-staffed and is seeking an additional headcount in 2016. Alan reported on the progress of the FERC's audit currently underway noting that the FERC has now sent a third set of data requests. Alan reported that the MMU is assessing FERC's recent Order denying the MMU's request to apply a market impact test to its Physical Withholding screen. Alan also described the FERC's recent Order upholding the MMU's opposition to Mitigated Offer filing.

Order 1000 Update – Ben Bright provided an update on recent Order 1000 activities (Order 1000 update – Attachment 8). Ben reminded the Committee on the timeline associated with the RFP process for the Walkemeyer transmission project. Paul and Ben discussed potential training for the Board and the Committee unanimously supported training for the Board. The committee advised Ben on particular aspects that the training should include. Ben advised the OC that sometime between November 2nd and the 30th; the Committee will need to decide on the panelists that will serve on the Industry Expert Panel. The OC has scheduled a mid-November conference call to consider a staff recommended Panel.

Agenda Item 4 – Draft 2016 Internal Audit Plan

Lauren shared with the Committee her draft 2016 Audit Plan and highlighted new planned audits for 2016. Josh asked the Committee for any additional areas for the Internal Audit department to explore. Larry asked for clarification concerning the scope of the planned review of the budgeting/forecasting process. Jim Eckelberger asked for an assessment of line management's engagement in SPP's corporate-wide process improvement initiatives.

Agenda Item 6 – New Action Items

Action items are:

- Clarify timing of outside firm engagement to audit/assess MMU metrics and processes;
- Develop recommendation and list of issues for engagement of Boston Pacific for a 2016 Looking Forward Report;
- Recommend that Board receive training on the transmission RFP and Independent Expert Panel (IEP) processes; and,
- Schedule mid-November conference call for OC to select experts to serve on the IEP.

Adjournment

Josh Martin thanked everyone for participating and adjourned the meeting at noon and went into Executive Session.

Executive Session

The Committee met in Executive Session and discussed Compliance/Security matters, Order 1000 matters and MMU matters.

Respectfully Submitted,

Michael Desselle

Southwest Power Pool
OVERSIGHT COMMITTEE MEETING
November 11, 2015
Conference Call
• M I N U T E S •

Call to Order

Josh Martin called the meeting to order at 10 AM. All members of the Oversight Committee were present on the call. Staff participating on the conference call included Michael Desselle, Ben Bright and Paul Suskie.

Agenda Item 1 - Order 1000 Industry Expert Panel Discussion

Ben Bright reminded the Committee that the OC is responsible for creating an Independent Expert Panel (IEP) from the IEP candidate pool that will evaluate competitive transmission proposals. He reminded the Committee that the IEP shall consist of 3 to 5 industry experts.

Ben described staff's recommended list of panelists. The Committee discussed the recommended panelists as well as the appointment of staff's recommended chair of the panel. Following these discussions, Phyllis Bernard moved adoption of staff's recommendation which Larry Altenbaumer seconded. The recommendation passed unanimously.

Ben also noted that following the IEP Pool training conducted earlier this fall a suggestion was made that pool members not selected to participate on the panel potentially could serve as alternates on the pool. The suggestion's rationale was that this would: afford such pool members an opportunity to remain involved in meetings; serve as additional training for future panels; and, provide a ready reserve of panelists that could immediately move onto the panel if the need arises. Subsequent to the IEP training session staff revised its position and is recommending to not allow this practice. The Committee discussed the matter and concurred with Staff's ultimate recommendation to bar other pool members' participation in the evaluation process.

Finally, each industry expert is required to disclose to the OC any affiliation with any SPP Stakeholder or QRP. Ben informed the OC that one of the industry experts recently approved for the IEP Pool had recently disclosed such a conflict. The OC discussed the conflict and in view of the circumstances Larry Altenbaumer moved for removal of the individual from the Pool. Larry's motion was seconded by Phyllis and the motion passed unanimously.

Agenda Item 3 - Next Steps

Ben Bright will inform the Panelists.

Adjournment

Josh Martin thanked everyone for participating and adjourned the meeting at 10:45 AM.

Respectfully Submitted,

Michael Desselle



**Southwest Power Pool, Inc. (SPP)
RTO Compliance and Security Department
Public Oversight Report – Q4 2015**

Director Summary

Compliance Report

Operations & Planning (O&P):

Q4 of 2015 has O&P staff focused on the 2016 O&P Pre-Audit Preparation for the upcoming May 2016 on-site SERC Audit. Preparation includes Reliability Standard Audit Worksheet (RSAW) reviews, spot checks, Subject Matter Expert (SME) preparation and mock audits.

GridExIII:

SPP participated in the third biennial Grid Exercise (GridExIII) on November 18-19, 2015. Over 60 SPP staff including IT, Operations, Communications, Process Improvement and Compliance discussed events led by the narrative facilitated by NERC. Also attending were observers from DHS and Arkansas Tech. This is the third time SPP has participated in the NERC exercise. Participants reviewed processes, engaged in troubleshooting and forensics and found improvements to existing response efforts.

Cyberterrorism First Responder (CFR):

The training provider, The Criminal Justice Institute, University of Arkansas System, has submitted a request to FEMA to provide an exclusive training session for SPP Member technical personnel to be held during the first quarter of 2016. As of the date of this report, the request is pending.

Working Group Reports

Chair, Vice Chair and Staff Secretary Training Attended:

Compliance staff that supports the Reliability Compliance Working Group (RCWG), the Critical Infrastructure Protection Working Group (CIPWG) and the Events Analysis Working Group (EAWG) all attended the Chair, Vice Chair and Staff Secretary training held November 16, 2015 here at the SPP HQ in Little Rock. Topics included meeting governance fundamentals, facilitation, and collaboration of groups.

Reliability Compliance Working Group (RCWG):

The RCWG hosted its final face to face meeting of the year on November 17, 2015, in Tulsa OK. They recently had their Charter approved by the Corporate Governance Committee (CGC) and the Board of Directors (BOD). Open nominations were held to increase the representation for the group and they have added 7 approved voting members which include Sunflower, OMPA, WAPA, Midwest Energy, EDP Renewables, ITC and Xcel Energy. The RCWG has 3 task forces that will be dissolved by December 31, 2015 as their work has been completed. These include the Grid Security Task Force (GSTF), the Revision Request Task Force (RRTF) and the Predictive Generation Report Task Force (PGRTF).

Regional Compliance Outreach Report

Request Management System (RMS):

The RTO Compliance Department will be moving their Adhoc questions from direct emails and calls to the RMS. Internal and external member training will take place in December with a formal launch in January 2016.



**Southwest Power Pool, Inc. (SPP)
RTO Compliance and Security Department
Public Oversight Report – Q4 2015**

2015 Outreach at a Glance:

- ✓ Hosted a Meet & Greet and RTO Member Compliance Services Overview to the WAPA IS
- ✓ Conducted 14 Member Evidence Reviews
- ✓ Hosted 3 Compliance Forums with 336 Member Participants
- ✓ Conducted 8 Compliance Calls with 230 Member Participants
- ✓ Hosted a Subject Matter Expert (SME) Audit Prep Training with 118 Member Participants

2016 Outreach at a Glance:

Compliance Forums - Changes Coming:

The RTO Compliance Outreach team is looking at 2016 as the start of separating the RTO Forums and the RCWG Meetings from the RE Workshops. Based on the diversity of our region now, the time has naturally occurred where this makes sense. The Reliability Compliance Working Group (RCWG) has committed to support this transition. We are working together on combining the Forum and the RCWG meetings for 2016.

Respectfully submitted,

Mark Bowling
Director, Security & Compliance

Southwest Power Pool, Inc.

INTERNAL AUDIT

Report to the Oversight Committee

December 7, 2015

Staffing

- The Internal Audit department continues to be fully staffed.

Activity Update

- 2014-2015 Audit Schedule – Updated (see attached)
- Audits/Assessments Completed Since Last Meeting:

- **Change Management Monitoring Tools**

Internal Audit completed an audit of the change management monitoring tools. The primary objectives of the audit were to: evaluate the configuration of each of the monitoring tools to determine the accuracy and completeness of the changes captured; inspect reporting parameters of the change listings from each tool for completeness; test changes from each of the monitoring systems and trace reconciliations to the evidence of these changes; analyze how the automatic reconciliation process works for Business as Usual (BAU) type elements in each tool; assess audit logs/trails to understand how records are maintained of actions taken in each tool, and examine the administration of the tools.

See attached for summary.

- **SPP Security Awareness Audit**

This is the first in a continuing series of audit tests designed to test compliance with SPP's corporate policies/procedures and SPP employee general security awareness. Additional tests that will be conducted include: periodic security awareness quizzes, USB devices and social engineering (e.g. requests for information and phishing emails).

On Friday, October 30, 2015 Internal Audit conducted a simultaneous audit inspection of SPP's Chenal campus. The only areas excluded from the inspection were the Regional Entity and the Data Center due to a lack of physical security access to these areas. The goal of the audit inspection was to observe whether or not SPP PC users locked their computers when "stepping away" from their PCs, in compliance with SPP Acceptable Use Policy (0175).

See attached for summary.

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

The Internal Audit department has completed an audit of costs and consumables in support of the November 2015 rate adjustment charged for use of the Off We Go, LLC private aircraft. The audit 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.

- Audits Currently in Process:

- **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 audit is in the reporting phase.

- **Software Licensing**

This audit has been reassessed and a determination made that a phased approach will provide better coverage of this area. Phase 1 will cover software licenses on all PCs – desktops and laptops. Phase 2 will cover software licenses on servers/operating systems (OS) and databases. The primary objectives of our audit 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 Phase 1 audit is in the testing phase.

- **Tariff Administration**

The primary objectives of the audit 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 audit is in the testing phase.

- **HR Payroll**

The primary objectives of the audit 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. The audit is in the reporting phase.

- o **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. The audit is in the testing phase.

- o **Balancing Authority**

The primary objectives of the audit are to: obtain an overview of the various functions completed by the Balancing Authority department, industry standards that must be followed and downstream data users; review the policies and procedures in place for functions performed by the Balancing Authority, evaluate them for thorough coverage to protect the interests 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 audit was placed on hold due to the Integrated Systems integration and has been rescheduled to 2016 Q1.

- o **Study Deposits, Invoicing and Customer Refund Tracking (Phase 1)**

This audit is completed to ensure proper interest disbursements have been made for qualified generation interconnection requests in order to fulfill Attachment V tariff language. Phase 1 of this audit is focused on the historical payment obligations. Phase 2 of the audit (to be completed in 2016) will provide coverage of the future processes related to Engineering Finance Administration. The primary objectives of Phase 1 of the audit are to ensure: sufficient processes and procedures are identified, documented and followed to protect the interests of SPP, its members and customers; internal controls are adequately designed and operating effectively; requirements related to engineering finance are complied with in accordance to SPP governing documents; study projects that have been withdrawn have all remaining balances refunded and the calculation methodology used including interest appears accurate; and adequate documentation was retained to support refund calculations and invoices. The Phase 1 audit is in the reporting phase.

- o **Pension Plan/401 (k)/SERP (Retirement Benefits)**

The primary objectives of the audit are to ensure: sufficient processes and procedures are identified, documented and followed to protect the interests of SPP and its employees; internal controls are adequately designed and operating effectively; requirements related to retirement benefits comply with SPP governing documents, as well as, State and Federal regulations; adequate documentation is retained to support plans and contributions; adequate tracking process is established and documented to ensure proper payments; each of the components of the Retirement Program listed above support the principal goal of the program which is financial security in retirement for SPP employees; there is an effective process for monitoring vendor contracts and vendor performance; employee data is maintained accurately and securely. The audit is in the testing phase.

- **SPP Modeling Control Self-Assessment (CSA)**

The primary objectives of the CSA are for participants to: build a map of all SPP models/interfaces; develop "Fit for Purpose Statement" for each model by user; conduct CSA workshops with subject matter experts to develop/prove process maps; conduct CSA workshops with subject matter experts to identify risks and controls (including backup, versioning, system access and data change monitoring), develop/prove validations; CSA workshops to review internal and external coordination/communication; CSA workshops to review preparation for MOD 33 NERC Steady-State and Dynamic System Model Validation (in effect July 1, 2017). This audit is in the testing phase.

- **Collateral Management**

The primary objections of the audit are to determine: documented policies and procedures exist and are adequate to provide reasonable assurance that business objectives related to collateral management will be achieved; collateral requirements are sufficient in reducing credit risk to a level acceptable to management; letters-of-credit obtained are maintained in a manner that provides adequate safeguards against the threat of fire or other loss; cash collateral obtained is maintained in accordance with established policies and procedures; guarantees are properly authorized and executed by the issuer in a form and substance that is acceptable to SPP. This audit is in the reporting phase.

- **Off We Go LLC – Invoice Reimbursement Review (5/1/15 through 10/31/15)**

The purpose of this review is to **review reimbursements** made to Off We Go, LLC for use of their private aircraft for the period of May 1, 2015 through October 31, 2015. In addition, Off We Go's insurance policy is reviewed to confirm it meets the requirements listed in the Private Aircraft section of SPP's Expense and Travel Policy. The review is in the testing phase.

- Audits Currently in Planning:
 - Identity Access Management
- Upcoming Audits:
 - SPP Security Awareness
 - Application Access
 - Data Management/Changes CSA
 - Credit Stack (Z2) Historical true up
 - Balancing Authority

- SPP Tariff Compliance Process
- EMBC (including e-mail reliance and critical spreadsheets)
- Other Activities:
 - Controls audit (SSAE 16/SOC1) work:
 - 2015 SOC 1 Type 2 Audit:
 - Completion of periodic control activity reviews:
 - ❖ SOC 1 Audit period November 1, 2014 – October 31, 2015
 - 80 completed to date, 0 in process (80 total Business control activities)
 - 30 completed to date, 0 in process (30 total General IT control activities)
 - Facilitated/coordinated external auditors on-site visit in October 2015
 - ❖ 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
 - 2016 SOC 1 Type 2 Audit:
 - Completion of periodic control activity reviews:
 - ❖ SOC 1 Audit period November 1, 2015 – October 31, 2016
 - 0 completed to date, 0 in process (80 total Business control activities)
 - 0 completed to date, 0 in process (30 total General IT control activities)
 - Phase 1 of 2016 audit:
 - ❖ SOC 1 Debriefing Meetings – developed and delivered five sessions for staff associated with SOC1 activities
 - Other consulting/advising:
 - Credit Stack (Z2) process
 - CIP Version 5 Program
 - Revenue Requirements and Rates File Process Improvement Lean Process
 - Engineering database initiative
 - Engineering Finance Administration (EFA) automation tool

Respectfully submitted,

Lauren Krigbaum
Director, Internal Audit

MARKET MONITORING Activity
REPORT to the Oversight Committee

7 December 2015

I. MMU Staffing

- The MMU has a request for one additional position for 2016, which is pending the budget approval process. We plan to begin the search process for this position in January.

II. Federal Energy Regulatory Commission (FERC)

- The FERC Audit team conducted three days of meetings with MMU staff and other RTO personnel the week of November 2. The MMU continues to provide information to the auditors as requested.
- The MMU continues to have conference calls with FERC staff on a once every two weeks basis. We continue to focus on the Integrated Marketplace screens, proposed market rule changes, market inefficiencies, possible market rule violations, and potential market manipulation.

III. Market Surveillance

- Integrated Systems joined the market on October 1. Since that time, we've seen some changes in congestion and price patterns. We continue to monitor these changes.
- The Surveillance team continues to meet twice each week to review key daily metrics and screens.
- The Surveillance team is piloting a new process for tracking anomalies in market behavior and data. This is in response to some of the comments from the FERC auditors.

IV. Reporting

- The MMU continues to incrementally improve the monthly metrics reported at the Market Working Group.
- Standard MMU reports include: Summer QSOM Report published in September; Monthly Market Reports for the MWG for months September, October, and November; and the SPP Corporate Metrics for the Board meeting in October.

V. Integrated Marketplace

- The MMU filed comments on the SPP filing to modify the annual ARR allocation program. The MMU recommended the ARR allocation be the same as the annual TCR auction Transmission System capability percentage.
- The MMU continues to work with SPP Market Design and the MWG regarding the recommendations that are contained in the 2014 ASOM.

- The MWG approved a proposed Tariff rule change to address the JOU market design issue. Preliminary MMU review of this proposed rule change appears to address most of the MMU concerns. Addressing everyone's concerns regarding JOUs has been difficult given the complexity of the issue.
- The MMU has developed preliminary findings for the annual Frequently Constrained Area report as required by the RTO Tariff. The process and initial findings were reviewed at the November MWG meeting. The final report will be reviewed at the December MWG meeting and the next MOPC meeting in January. The final report will be presented to the SPP Board at the January 2016 meeting for review and approval. The assessment indicates that the Texas Panhandle region will continue to be a designated area and that there is a need for an additional designated area based on the Woodward to FPL Switch flowgate in western Oklahoma.
- The MMU has closed two behavior studies and continues to have several open behavior studies. FERC staff members continue to request additional information on several previously filed referrals.
- The MMU is working to automate the virtual/TCR monitoring process and to evaluate the potential impact of a claw-back rule. We are also gearing up for a review of generator data and spending time analyzing seams issues.

Respectfully submitted
Alan McQueen
Director, Market Monitoring and Analysis

POSSIBLE TOPICS FOR THE 2016 *LOOKING FORWARD REPORT* FOR DISCUSSION AT THE DECEMBER 7, 2015 MEETING OF THE SPP OVERSIGHT COMMITTEE

I. 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 two 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 as well as from a prominent Canadian forecast who claims that the EIA forecast may be overly optimistic by as much as 40%. We will also look at continuing advancements in drilling technology and the impact on the economics of individual shale wells across the U.S.
- B. What are the regulatory challenges for production of shale gas and oil? We would examine some of the most pertinent threats, including the now-finalized water regulations from the U.S. EPA, potential for EPA regulation of methane, and continued earthquakes in drilling areas (e.g., Oklahoma).

II. 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 focus on the proposed Clean Power Plan, but will also provide an update on existing regulations (e.g., MATS).

- A. Examine and explain the proposed Clean Power Plan, a voluminous and complex piece of regulation that offers a variety of compliance options, timelines, and possibilities, as well as legal challenges to the Clean Power Plan.
- B. Examine the 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. Consider a SPP-wide compliance option, including the potential for a carbon tax as a compliance strategy. As part of this section, we will consider SPP's own analysis of a region-wide compliance approach.
- D. Consider potential for new scientific breakthroughs that could facilitate compliance with the Clean Power Plan, such as a recent development in carbon capture technology noted in a recent Wall Street Journal article,
- E. This chapter closes by looking at any important updates for existing EPA regulations, such as the recent Supreme Court decision remanding the MATS rule back to the EPA on the basis that the EPA must include a cost-benefit analysis for its regulations.

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.

- A. Examine the cultural factors driving demand for decentralized technologies. This includes the importance of “doorstep” reliability, a demand for personal choice, and the inclusion of environmental attributes to combat global climate change.
- B. Describe a variety of new developments in the decentralized technology space:
 - Tesla’s PowerWall technology
 - The University of Michigan’s microgrid
 - Community solar efforts, including in Washington, D.C.
 - Distributed generation and small solar PV procurements in Illinois
- C. Examine questions about the true potential impact of decentralized technologies as it relates to grid service:
 - EIA projects \$2.1 trillion in new grid investment through 2035, despite advancements in decentralization
 - Net metering policies are being reconsidered, most notably in Hawaii, meaning that decentralization’s impact could be mostly about grid cost allocation issues
 - Recognition that technologies like PowerWall are not yet likely to allow people to become independent from the grid
 - An anecdote from New England demonstrates the demand for additional grid investment, in which the closure of coal and nuclear baseload facilities combined with aggressive state renewable portfolio goals has created intense competition for new HVDC projects bringing Canadian power to New England

IV. Jurisdictional Issues in the Electricity Industry (Update based on new information)

In last year’s Report, we highlighted four significant issues related to the jurisdictional split between the States and the Federal government. This year, we would update three of those topics. Specifically:

- A. The U.S. Supreme Court has taken up two major electricity cases in recent months. The first involved FERC Order No. 745. In that case, the Court must decide whether FERC’s attempt to regulate demand response in the wholesale energy market is lawful or if demand response is a State-jurisdictional matter.

- B. The second case taken up by the Supreme Court involves a U.S. Federal District Court ruling that States' resource planning efforts cannot coexist with wholesale markets under Federal jurisdiction. We will frame these two cases from a policy and jurisdictional context and explain the implications for each.
- C. We will also update our research on the issue of "environmental dispatch," in which RTOs like SPP may be required to consider environmental attributes of generators in dispatch, depending on the State in which the generator resides. We will consider the most up-to-date reports from RTOs and legal experts.

V. Electric Vehicles (Brief Update)

Past reports discussed the potential demand shock inherent in the electric vehicle industry, which would add the automotive transportation industry as a huge new buyer of electricity. This brief chapter would provide pertinent updates on developments in electric vehicles. We would primarily focus on two of the largest companies in the U.S. – Apple and Google, as well as industry-leader Tesla – and their efforts in developing electric vehicles.

VI. \$40 Oil (Short New Topic)

Since the summer of 2014, oil prices have fallen about 60%. Such a dramatic decrease in the world's most used fossil fuel has had major implications for geopolitics and some of the largest companies in the world. This chapter would examine some more SPP-targeted impacts of \$40 oil, including:

- A. Impact on electricity demand in SPP, as major drilling sites become less economic at low prices.
- B. Impact on gas wells, as profit margins become squeezed from lower liquids prices.
- C. Impact on public policy, including subsidies for renewables. We would note an example in the U.K., where new legislation removed all subsidies for on- and off-shore wind in light of lower oil and gas prices.

VII. Consolidation in the Electricity Industry (Short New Topic)

Since the repeal of the Public Utilities Holding Act of 2005, a legal barrier to merger activity among utilities, there has been an expectation of a surge in mergers in the electricity industry. In this chapter, we would seek information on the following:

- A. Are utilities, on average, getting bigger? We would look at metrics such as market capitalization and generation owned.
- B. Is the utility sector becoming more concentrated? Major utilities like NextEra, Duke, and Exelon have been involved in recent merger activity. We would look for

- empirical evidence of increased market concentration. Our analysis will use data from SEC filings and other public sources of utility statistics.
- C. We would also consider drivers for this consolidation, such as the repeal of PUHCA, electric deregulation, which encourages utilities to grow and diversify their earnings in the face of market risks, and the need for larger balance sheets for both making large capital investments and managing their risks (e.g., nuclear generating facilities).
 - D. We would conclude with potential implications for market consolidation, including higher electricity prices and changes to RTO stakeholder committees.

VIII. Band-Aids in RTO Capacity Markets (Short New Topic)

As we have covered in past *Looking Forward Reports*, SPP has avoided many of the pitfalls associated with regional capacity markets to date by shunning them altogether. In this chapter, we would provide an updated look at PJM and MISO capacity market rule changes designed to overcome the shortcomings that led to reliability issues during the 2014 polar vortex. Both PJM and MISO have introduced “enhanced” capacity products that pay generators a premium for being available when they are most needed. This chapter would explain those new features and provide some analysis on their costs and benefits.