Draft

PJM/MISO JCM Work Plan Components

Straw proposal for stakeholder discussion – August 23, 2013

The purpose of this document is to provide a brief description of each component listed on the Draft JCM Work Plan Timeline compiled by PJM and MISO. This Work Plan is being created in order to track the progress of the JCM stakeholder process as well as keep FERC informed regarding the progress of the stakeholder discussions. The Work Plan will be updated as necessary to reflect the status of this effort on an ongoing basis. This timeline, jointly developed by MISO and PJM, reflects two principles that we believed were paramount to assuring the timeline met the joint needs of our stakeholders as well as FERC's request. First, the timelines developed for all issues reflects the stakeholder priorities developed through the JCM process, although the RTOs have different perspectives regarding the survey results. Second, the plan reflects the state Commissions' request to conduct a fact-finding into the Capacity Deliverability issue, which request was supported by FERC Commissioners through statements made at the June 20, 2013 open FERC meeting.

CATEGORY I: MARKET OPERATIONS

<u>RTO-to-RTO Data Exchange and Transparency</u>

Brief Description: PJM and MISO have implemented regular posting of the information requested by the stakeholders through the JCM process. Therefore, this item is considered to be completed. However, the RTOs recognize that additional transparency initiatives may arise as the JCM process proceeds, and they will be addressed as needed.

Deliverable(s): Public posting of data, process documentation, etc. that provides market participants with information and insight into the operation of the market-to-market coordination process.

Timeline: ongoing

<u>Day-Ahead Market Coordination</u>

Brief Description: This item deals with both the near-term, day-to-day coordination between the two RTOs' day-ahead market operators as well as the longer term issue of whether and how the day-ahead Firm Flow Entitlement (FFE) exchange provisions in the JOA should be updated or redesigned. Day-to-day coordination improvements have been identified by stakeholders as a high priority area for examination, and the RTOs have made significant progress in that area. Analysis of the FFE exchange provisions of the JOA, how they could be implemented as they currently exist, and how they could be potentially redesigned to maximize economic benefits and efficient utilization of transmission facilities intended in the JOA is also a high priority issue, and addressing that issue will require significant RTO staff and stakeholder analysis and discussion.

Deliverables: Potential JOA and process changes specific to day-ahead market operation

Timeline: Given its complexity, this effort will likely extend into the Fall of 2014 through the JCM stakeholder process, with likely individual stakeholder discussion to follow into 2015 before any FERC filings to implement changes could be made.

<u>Transmission and Generator Outage Coordination</u>

Brief Description: Both RTOs recognized the opportunity to implement improved outage coordination. Additional coordination of outage schedules may allow the RTOs to reduce resulting congestion and provide additional transparency to market participants through modeling outages in their respective FTR auctions. Staffs are in the process of exchanging data, evaluating and validating potential impacts, and will report these results to stakeholders along with developing additional proposals as warranted for stakeholder consideration.

Deliverable(s): Potential process changes regarding outage information exchange or outage scheduling timelines pending analysis of costs/benefits.

Timeline: The goal is to reach resolution by February 2014, which will facilitate implementation of process changes prior to the PJM and MISO 2014/2015 annual ARR allocations and FTR auctions.

<u>Interchange Scheduling Business Rule Alignment</u>

Brief Description: RTO staffs and stakeholders have indicated that market participants would have more flexibility in scheduling interchange between the PJM and MISO markets if the rules for submitting interchange schedules were better aligned. MISO has determined that a reduction of the real-time schedule notification deadline from 30 minutes to 20 minutes can be supported, which will align with PJM's current rule in that aspect. MISO plans to submit a compliance filing to FERC in the Order 764 docket that will clarify and solidify its current scheduling rules. PJM will approach its stakeholders to move to the MISO rules for intra-hour interchange scheduling and remove the 45-minute duration requirement if FERC approves the MISO filing.

Deliverable(s): MISO compliance filing in FERC Order 764 Docket; potential MISO and PJM interchange scheduling rule changes for improved alignment.

Timeline: MISO expects to complete the proposed reduction of notification deadline by the FERC Order 764 compliance deadline, which is November 12, 2013. Given the currently expected MISO filing timeframe and the expected 60 days required for a FERC response, the RTOs expect that PJM's stakeholder discussions could begin in December, 2013 and conclude by May, 2014.

Freeze Date for Firm Flow Entitlement Calculations

Brief Description: Certain components of the calculations utilized to determine the Firm Flow Entitlements that are in turn used to, among other things, determine market-to-market settlements rely on the establishment of a historic reference date on which Firm Point-to-Point reservations and Network resources are based. This historic reference date is known as the "freeze date" and is currently established as April 1, 2004 based on the date that PJM and MISO began market-to-market coordination. The RTOs and their stakeholders have agreed that the concept of using a freeze date, as well as what that specific date should be, should be revisited given that the period since the current freeze date is approaching 10 years. This is a very complex subject, and as such will require in-depth stakeholder education and discussion. Further, the alternatives to the current approach will be equally complex, as will determining the impacts of potentially moving to an alternative approach.

Deliverables: Potential JOA and Interregional Coordination Process (ICP) changes regarding the development of historic allocations of transmission capability.

Timeline: Given its complexity, the RTOs expect that discussion of this issue will extend into mid-2014 through the JCM process, with individual RTO stakeholder discussion likely extending into mid-2015.

Interface Pricing

Brief Description: The RTOs and stakeholders have identified opportunities for increasing the effectiveness of the interface prices that are established to price interchange between the RTOs. The RTO staffs have produced analysis of the current interface price performance, and will discuss proposals with stakeholders as to how the interface definitions could be updated to improve the effectiveness of the price signals provided to market participants.

Additionally, the MISO IMM has indicated a concern with respect to the inclusion of external constraint congestion impacts in interface prices. The RTOs agree that the identified issue is a high priority for investigation and if necessary, resolution.

Deliverable(s): Potential rule, JOA and/or Tariff changes regarding how interface prices are established and how congestion prices are included in interface price calculations.

Timeline: The RTOs expect that this effort can be concluded in the JCM process by November of 2013, with the individual RTO stakeholder discussions concluding by May of 2014.

<u>Treatment of Ontario-ITC PARs in the Market-to-Market Process</u>

Brief Description: The Ontario-ITC PARs are currently modeled in the Market Flow and Firm Flow Entitlement calculations as free-flowing ties. Conversely, the PARs are modeled as open circuits in the Interchange Distribution Calculator (the industry tool used to determine transaction curtailments through the NERC TLR process) during times when they are determined to be adequately controlling flows across the interface. The RTOs have committed to work with the other Balancing Authorities around Lake Erie to evaluate the performance of the PARs being able to manage Lake Erie loop flows after one year of operation to determine whether modeling in the Market Flow and Entitlement calculations should be changed to better reflect their actual operation.

Deliverable(s): Analysis of the performance of the PARs through the first year of operation; potential changes to how the PARs are modeled in the Market Flow and FFE calculations.

Timeline: The RTOs plan to complete the analysis by the end of 2013, and expect to be able to complete stakeholder discussion through the JCM process by March of 2014.

<u>Use of the Ontario-ITC PARs for Congestion Management</u>

Brief Description: The Ontario-ITC PARs are currently operated in a manner such that actual flows across the Ontario-ITC interface are aligned with the scheduled values to the greatest extent possible. The potential may exist to implement an alternative operating protocol for the Ontario-ITC PARs such that instead of the current operating protocol of the intent to match the flow across the interface to the scheduled amount, they could be operated to minimize congestion on facilities that experience flow impacts around Lake Erie. Analysis will be required to determine the costs and benefits of changing the current complex operating protocol, there are multiple entities around Lake Erie that will need to be involved in the analysis and discussion, and multiple regulatory authorities will need to approve any change to the operating protocol (FERC as well as the DOE).

Deliverable(s): Cost/benefit analysis of changing the operating protocol for the Ontario-ITC PARs; potential operating protocol changes pending the results of the cost/benefit analysis.

Timeline: The RTOs expect that the effort will extend through 2014, and plan for it to conclude in the Spring of 2015.

Interchange Optimization

Brief Description: Both MISO and PJM Independent Market Monitors have stated in their respective State-of-the-Market reports that real time interchange between PJM and MISO could be accomplished more efficiently and the Participants have not been fully effective in arbitraging the price differences in real time. Other analysis suggested that Participant scheduling in reaction to price differential leads to significant volatility of the energy transfers (Net Interchange) across the seam and creates operational challenges and market impacts. In addition, the RTO staffs have been analyzing instances where it appears that interchange between the markets could have been coordinated more efficiently. The results of that analysis, expected to be concluded by the Fall of 2013, will be utilized to develop recommendations as to how the RTOs could achieve more optimal coordination of interchange in the future. The work currently ongoing between PJM and NYISO with respect to Coordinated Transaction Scheduling will also inform the PJM/MISO JCM process on this issue.

Deliverable(s): Analysis of operating events; potential JOA and/or Tariff rule changes to implement procedures or market rules to better optimize interchange between PJM and MISO.

Timeline: The RTOs expect that the JCM effort on this issue can be concluded in May of 2014, with individual RTO stakeholder process continuing until November of 2014.

CATEGORY II: RESOURCE ADEQUACY

Capacity Deliverability (i.e. Network Service Coordination)

Description: RTO staffs will initiate the "fact-finding" effort through the JCM stakeholder process as requested by OPSI and OMS. Through the Fact-Finding requested by the states, the JCM process would make tangible progress on this issue and examine what changes would be necessary, and whether such changes would be cost beneficial, to enable units in one region to be deliverable in the adjoining region without the need for multiple transmission service analysis to be performed once the deliverability analysis for a resource is completed. The fact-finding will ensure that issues are appropriately framed and narrowed by a date certain, such that solutions to those issues which are determined to be cost-beneficial to resolve are implemented on a to-be-determined schedule. After completion of the fact finding, the parties can agree whether they wish to undertake further work on this issue or whether either party wishes to present the remaining issues to FERC based on the fact finding record and JCM activities created through this process.

In an effort to address the items that were detailed in the OMS/OPSI filing in FERC docket AD12-16, as well as the OMS/OPSI presentation at the open FERC meeting on June 20, 2013, the fact-finding will begin with technical analysis of how the results of the unit-specific deliverability determination as it is currently conducted by the two RTOs would change if it were executed using an expanded network model that included a more detailed representation of the combined PJM/MISO footprint. This initial analysis will identify whether there are either additional constraints that need to be considered with respect to the deliverability of individual units to each RTO's load, or whether there is additional generation that could be deliverable to each footprint's load as a result of using an expanded, more detailed model.

The results of that technical analysis will then be expanded to determine if beneficial differences in results could be achieved by including generators in the other RTO's area in the studying RTO's deliverability analysis, in order to simulate enhanced energy market coordination. Groups of generators in the other RTO would be included in the studying RTO's Generator Deliverability Analysis as if it were generation in the RTO performing the analysis. That is, for these groups of other RTO generators, the RTO would change the static dispatch level currently in the model and instead set their dispatch level in the same manner as the RTO sets the dispatch level of its own modeled generators and will perform a deliverability analysis on these generators as well.

The initial groups selected for this analysis are those in the areas of generators in the other RTOs territory that are already Capacity Resources for the RTO performing the analysis, but that the analysis continue with other groups of generators throughout the other RTOs footprint. This analysis would demonstrate whether additional generators in the other RTO, on a unit-specific basis, would be deliverable to the RTO performing the analysis should they request such qualification. It could also potentially reveal additional transmission constraints that should already be considered in the RTOs' current deliverability analyses. This second analysis would be informative because it would highlight whether updated assumptions in the Planning analysis would reveal areas where additional resources could potentially be certified as deliverable to load across the seam in order to maximize the transmission service that can be made available to facilitate Capacity transfers, should such transmission service be requested.

Third, the RTOs will analyze what it would take (including the costs and benefits of same) to move to a fully networked deliverability analysis to the combined footprint load and will conduct deliverability tests using this combined footprint load to reveal potential deliverability results under this methodology.

The results from these analyses would then be used to inform analysis of the benefits of conducting the generator deliverability tests with a more integrated approach taking into account all other energy and ancillary service market changes that may be required in order to implement such an approach. The output of these incrementally more complex analyses would be synthesized to develop responses to the six (6) critical issues identified in the OMS/OPSI filing, as well as the majority of the steps identified in the OMS/OPSI June 20, 2013 presentation.

The RTOs would also develop methodologies for determining the maximum quantity of Capacity that can reliably be committed from resources external to its footprint, as noted in the OMS/OPSI presentation.

PJM is conducting an analysis of the level of Capacity imports that can be reliably supported by physical transmission system capability in the RPM Capacity auctions. PJM is working with its stakeholders to develop a process by which to ensure that the quantity of external resources committed through RPM to serve PJM's Capacity requirements can reliably be imported with the planned transmission system. While this effort will proceed independent of the fact-finding process described here, PJM will coordinate with MISO as this methodology is developed, and as MISO develops or refines its own methodology for the same purpose. Together, the three-step analysis described above and the two RTOs' Capacity import analysis will provide the technical analysis necessary to complete the fact-finding envisioned by OPSI/OMS. PJM and MISO will then work to identify the feasibility of changes required to market rules and operating protocols that would be required to implement the changes to the deliverability analysis that the fact-finding determines to be beneficial to pursue. Identification of these required changes will form the basis for the cost/benefit methodology that is the last step in the OMS/OPSI fact-finding process.

In the course of completing the technical analysis described above, PJM and MISO will also investigate and determine potential resolution for the following issues that were identified through the JCM process to date: Dispatch Control Requirements for External Resources, Existing Generation Deliverability Assessment; Transmission Limitations; Day-Ahead Market Coordination, and Assess Physical Transfer Capability of Existing Transmission

Deliverables: Written Report documenting the methodology and results from the deliverability analysis conducted on a detailed model of the combined RTO footprints as described in the three steps above; written answers to the questions and issues listed in the OMS/OPSI fact-finding request including discussion of feasibility of and requirements for changing the processes in either RTO to enable any changes identified in the deliverability analysis ; documentation responsive to the issues (numbers 2, 3, 4, 5, and 6 as indicated on the capacity deliverability work plan) listed above that were identified through the JCM process. Preliminary results and review of progress will be undertaken through the JCM process and related consultation with OPSI and OMS.

Timeline: The fact-finding effort and associated production of deliverables will be completed by March 31, 2014. If the fact-finding effort results in a product that is determined to be cost-beneficial to address, then the RTOs will work to develop proposals to resolve those issues by the Fall of 2014. Any agreed-upon resolutions will be, to the extent possible, implemented by the RTOs' respective Capacity auctions in the Spring of 2015. .

CATEGORY III: TRANSMISSION PLANNING

<u>Generation Interconnection and Transmission Service Request Queue Coordination</u>
Brief Description: The RTOs addressed improved coordination of these queue processes in 2012, and implemented changes to their respective business process manuals. The RTOs further agreed to revisit these processes after gaining experience with the improvements and recommend to the stakeholders whether further enhancements would be beneficial.

Deliverable(s): Potential additional changes to the RTOs' generation interconnection and transmission service request queue processes.

Timeline: Stakeholder review of the current processes will be initiated in the Spring of 2014.

Order 1000 Interregional Compliance and Regional Planning Coordination –

Brief Description: Both RTOs submitted their Order 1000 interregional compliance filings on July 10, 2013. As such, the RTOs consider the Order 1000 component of the planning coordination effort to be complete until such time as further compliance requirements may be ordered by the FERC. In particular, the RTOs note that disagreement exists with respect to interregional cost allocation for cross-border reliability projects, and therefore it is likely that further filings will be required of one or both RTOs. Additionally, coordination of the RTO planning efforts will continue through the Interregional Planning Stakeholder Advisory Committee (IPSAC).

Deliverable(s): Stakeholder updates on Order 1000 compliance filings and on-going planning coordination activities.

Timeline: Ongoing - continuous updates will be provided to the JCM stakeholder group through standing agenda items at the JCM meetings.

Market Participant Funded Upgrades and ARR Requests

Brief Description: The JCM effort on this issue has not yet begun. The RTOs have previously addressed increased coordination in this area in 2012 and 2013, and plan to file resulting JOA changes in the Fall of 2013.

Deliverable(s): Potential additional JOA and/or Tariff rule changes pending stakeholder review of the current processes.

Timeline: The RTOs currently plan to initiate stakeholder education on this issue beginning in January of 2014. Given the level of coordination that has already occurred in this area, the RTOs expect that the JCM stakeholder discussion can conclude in March of 2014. The Work Plan includes individual RTO stakeholder discussion through the Summer of 2014, in recognition that further coordination steps may be identified through the JCM discussions that will require consideration by the individual stakeholder processes.