

**APPENDIX C TO REPORT OF INVESTIGATION**  
**BY THE SPECIAL INVESTIGATIVE COMMITTEE OF**  
**THE PJM BOM**

**TIMELINE**

**2005 – STATE OF THE MARKET REPORT**

(Bowring alleges that PJM Management ordered the removal of conclusions regarding the regulation market from the MMU's 2005 State of the Market ("SOM") Report. Specifically Bowring alleges that on February 28, 2006, PJM Management ordered him to remove the following conclusion from the MMU's final draft of the 2005 SOM Report:

However, the improvement in HHI and maximum market share metrics was not enough to overcome the fact that there are still dominant suppliers in the Combined Regulation Market that are frequently pivotal and that, therefore, have the ability to exercise market power, aggravated by the presence of inelastic demand. Consistent with the FERC's order affecting the offer capping of dominant suppliers in the Western Region Regulation Market, an effective means of reducing the probability of the exercise of market power would be to offer cap the dominant suppliers in the Combined Regulation Market. There is little downside to this approach in the presence of dominant suppliers.

Bowring contends that conclusion was replaced with: "The MMU will make a recommendation in the near future as to whether the consolidation has resulted in a market that is structurally competitive."

Bowring also alleges that PJM Management ordered him to remove the following conclusion:

Based on this analysis, the MMU recommends that PJM continue to operate the Regulation Market as a single Combined Regulation Market. This recommendation is based on improved operational results and on the increased competitiveness of the Combined Market. Nonetheless, based on these market structure results, the MMU concludes that the market structure of the PJM Combined Regulation Market was not consistent with a competitive outcome. For Phase 5-b, the PJM Combined Regulation Market was operated by PJM, with the two dominant suppliers offer-capped, as a price-based market with market-clearing prices. It would be reasonable, consistent with the results of the analysis and with FERC's actions regarding the Western Region Regulation Market, to offer cap only the two dominant market participants identified in the analysis of the Combined Regulation Market. These results are

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based on the first five months of operation of the combined market.  
The MMU will continue to analyze market outcomes and market  
structure for the Combined Regulation Market.

Bowring states that he was ordered to replace that conclusion with: "The MMU will make a recommendation to PJM members in the near future regarding the structural competitiveness of this market.")

(PJM responds that Bowring sought to make untimely changes to the final SOM Report days before a printing deadline. Bowring provided a final draft of the SOM to the Board Committee on January 27, 2006, in order to receive its final comments by February 10, 2006, before the February 21, 2006 meeting. That draft stated that the Market Monitor had not yet reached a determination about the structural competitiveness of the PJM combined region-wide market. Two days after the meeting, PJM claims that Bowring, for the first time, proposed to insert an entirely new analysis and to conclude for the first time that the market was not structurally competitive. Bowring did not provide the supporting analysis for the new conclusion until four days later. PJM contends that this belated proffer "short-circuited the review process," and deprived the senior staff of raising their concerns with the new finding. PJM contends it did not seek to change the SOM as it existed but PJM sought only to hold MMU to the established review process, not to change the report as it existed, but to "retain the conclusion previously provided to the Board." PJM notes the matter was resolved by including the MMU's additional analyses but retaining the originally circulated conclusion."

We are tasked to investigate the factual circumstances surrounding the final preparation of the 2005 State of the Market Report, including specifically whether PJM Management required the Market Monitor to change conclusions, the timing of the Market Monitor's submission of drafts and final drafts of the SOM as may be related to any change in conclusions, and the circumstances under which the MMU did ultimately make any report or publish any information about the issue thereafter.

| <u>DATE/TIME</u> | <u>DESCRIPTION OF EVENT</u>   |
|------------------|---|
| 12/13/2005       | Bowring e-mail to Coughlin (cc: Ott) re: CMC and State of the Market Report<br><br>Setting schedule for review of SOM. Final draft to CMC by the last day of January. CMC will have about two weeks to review. MMU will produce final document first week of March. |
| 1/5/2006         | Ott e-mail to Coughlin (cc: Bowring and Swimm) re: CMC annual assessment and State of the Market Report   |

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|                  | Noting he & Bowring want to work out schedule for CMC peer review of the SOM – (schedule is identical to that above).   |
| 1/18/2006        | Bowring replies to Coughlin e-mail to Ott asking when might the CMC anticipate receiving the schedule for SOM by answering, “Sorry for the delay. I will get it out this afternoon.”  |
| 1/18/2006        | Bowring forwards Coughlin the schedule for CMC review of the SOM report. Schedule states:<br><br>1/30/2006: Draft SOM sent via Fedex to CMC members<br><br>2/6/2006: Conference call with Bowring<br><br>2/10/2006: End of review period; all comments to be submitted.<br><br>3/8/2006: Trade Press Briefing, Washington |
| 1/21/2006        | Bowring forwards CMC Schedule to Kinsey, Schneider, Coughlin, Ott, and Harris.  |
| 1/21/2006        | Kinsey e-mail to Bowring requesting draft to be sent out on January 27; Bowring replies that he will coordinate with all CMC members.   |
| 1/24/2006        | Bowring e-mail to CMC (cc: Ott) re: it will not be possible to have the draft out on Jan. 27. Bowring makes himself available for a conference call on February 3.  |
| 1/27/2006        | Draft SOM Report Includes Regulation Market Conclusion stating that MMU “has not reached a conclusion about the structural competitiveness of the PJM Combined Regulation Market.” (p. 251)   |
| 2/3/06           | Bowring e-mail to Ott noting a productive call with CMC members   |
| 2/5/06           | Ott reply to Bowring noting he should have been on the CMC call and stating: “do not let your paranoia get in the way of me doing my job in the future.”  |
| 2/20/2006        | Bowring e-mail to Kormos asking whether PJM failed CPS metrics for 2005, and stating that he “substantially modified the Transactions section   |

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|                  | <p>of the SOM per your comments.”</p> <p>Kormos responds that PJM has not failed any NERC requirements since 2004 and OVEC comment was “just an observation – no big deal.”</p>  |
| 2/21/2006        | <p>CMC Meeting</p> <p>Minutes reflect that regarding SOM, “Mr. Bowring summarized the peer review process for the first draft of the State of the Market Report and reviewed the highlights of the report. The Committee provided feedback on the process and expressed desire to streamline the Committee review process in the future.”</p>  |
| 2/23/2006        | <p>Bowring e-mail to Ott and Kormos re: Regulation</p> <p>“We will be concluding in both the SOM and the report to the members that:</p> <ul style="list-style-type: none"> <li>- these pivotal suppliers should continue to be offer capped;-</li> <li>- there are potential issues when the effective regulation market is smaller due to locational considerations. The associated rules governing operator actions need to be clarified so that the relevant markets can be defined.</li> </ul> <p>I have previously indicated these conclusions in conversation. I will send around a draft document for support.”</p>  |
| 2/23/2006        | <p>Ott replies to Bowring, “I do not agree with or understand your last two bullets.”</p> <p>“As I wrote in the comments I gave you on the SOM, the indices that you reported for the combined market relative to past markets that have not been offer capped do not appear to justify this conclusion. . . I would like to discuss it but you have been saying your will get us the background information/report for some time now and I have not seen it. I had assumed you would deal with this item after the SOM publication as opposed to trying to include it in the SOM. I do not understand why we need to continue with a global cost-based restriction on AEP, why can’t we implement a cost-capping method on an as needed basis . . .</p> |

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| 2/23/2006        | Kormos replies: "I have the same concerns . . The new market is better then [sic] MAAC and I have seen no evidence that any true market power could be exercise [sic] . . . My believe [sic] is we err ton [sic] the side of allowing markets to function then [sic] on the theoretical side as to whether someone could actual [sic] exercise market power."   |
| 2/27/2006        | Bowring e-mail to Ott and Kormos re: Regulation, attaching analysis of Ancillary Markets section of the SOM and stating, "Please let me have any comments as soon as possible."   |
| 2/27/2006        | Ott replies, "[T]his is at least the third time I have made this comment and have so far received no direct response . . . My comment continues to be that the combined market has MUCH better indices that [sic] the original mid-Atlantic market did. I [sic] does not make sense here, that the combined market would have more participants that are cost-capped 100% of the time . . . Why do you believe the only answer is to essentially remove the market-based pricing authority for several participants? I do not agree with your statement that there is little downside to this approach. The downside is that we are not giving the market a chance to work and at a minimum that these suppliers will make less regulation available under this approach from perception if nothing else . . ."     |
| 2/27/2006        | Bowring replies, "I have replied several times . . . the issue is not direction of movement . . . the issue is whether dominant participants continue to have the ability to exercise market power, which the data indicate they do. . . What do you suggest as an alternative?"  |
| 2/27/2006        | Ott replies, "The logic argument to [sic] you have in the report to explain the reasoning for breaking out the CTs misses the important point that opportunity cost is a major factor . . I know my people have discussed this with some of yours and have tried to point this out. I am concerned that you added this new 'no-CT,' which was not in the previous version of the SOM, might have been quickly developed to try to prove a point and I don't think it is necessarily valid . . . The alternative I suggested previously was permit market-based offers but to develop a test that is part of the market clearing . . . instead of assuming a problem and cost-capping someone for all hours, develop an approach that assumed the market will work an tests [sic] for abuse and costs caps only when |

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|                  | something goes wrong.”   |
| 2/27/2006        | Bowring replies, “The argument does not miss opportunity cost. We have demonstrated a structural issue . . . I am open to your behavioral approach for mitigation longer term . . . now two dominant participants are offer capped and should remain offer capped until another method is agreed upon, designed, approved, tested and implemented . . . ”  |
| 2/27/2006        | Kormos replies, “..we haven’t demonstrated a problem (structure or otherwise) . . .The tests in my mind simply indicated whether it is easier and should not be viewed as a bright-line test ... I think there are a lot of other circumstances (past history, the fact this is a very visible market, and the risk reward ratio doesn’t look good) to allow the market to move forward without being so restrictive.”   |
| 2/27/2006        | Ott replies, “I asked my people to dump the attached supply curve based on today’s offers. The merit order offer price is the sum of the regulation offer plus opportunity cost. . . . Can you share some of the supply curves you used in your analysis?”   |
| 2/27/2006        | Bowring forwards to Ott and Kormos a sample supply curve.  |
| 2/27/2006        | <p>Ott forwards above email chains to Zibelman, (cc: Hagele and Kormos)</p> <p>Alerting them that in the first draft of the SOM, Bowring indicated that the analysis was ongoing and no conclusion had been reached. This morning, Bowring sent a revised draft of this section of the SOM which indicates the analysis is concluded and that MMU recommends that the large suppliers remain offer capped . . .</p> <p>Ott claims he is concerned because Bowring added conclusions directly into the SOM at the last minute. Ott believes that this action is inconsistent with our internal procedures which require such items be discussed . .</p> |
| 2/28/2006        | <p>Bowring e-mail to Zibelman re: SOM</p> <p>“I wanted you to be aware that it is not possible to literally go back to the draft version of the regulation market write up as the underlying analysis</p>  |

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|                  | and write-up has been updated and improved here as elsewhere in the SOM. I am assuming that you want me to change the conclusion regarding the competitiveness of the combined markets rather than change the analysis. Please let me know if that is not correct.”  |
| 2/28/2006        | Zibelman replies, “Joe – let me be clear. As you are aware both Andy and Mike have concerns about the validity of your analytic approach to the regulation market and the conclusions you are drawing as a consequence. They are both concerned that the information presented to the Board is different then [sic] the information in the current version of the state of the market report. Under our processes we were to have a staff opportunity to review the SOM before it is presented to the Board. By changing the underlying analysis and conclusions after the fact your [sic] are not adhering to the process we outlined. The reason we have it that way is to provide the Board the opportunity to hear about concerns others may have. Your approach deprives PJM and the Board of that opportunity. I am not sure what changes you are now proposing to make. Certainly what you are suggesting is an improvement others may conclude is reduction in the quality of analysis. I suggest that you work with Mike and Andy to make sure that they do not see wholes [sic] in your analysis that were not there in the earlier versions.” |
| 2/28/2006        | Bowring e-mail to Ott and Kormos<br><br>“I have removed the conclusions regarding the Combined Regulation Market at pages 7 and 22 of the attached. Please let me know immediately if you have any other concerns about the attached.”   |
| 2/28/2006        | E-mail thread from Carl Smith (PJM Consultant – Project Manager on 2005 SOM Report) to Bowring re: Ancillary.<br><br>Bowring writes, “I am going to have to modify the Ancillary Section.”<br><br>Smith replies, “ What’s the scoop?”<br><br>Bowring responds, “I’m dealing with interventions from up the ladder – have made changes but not sure they are final. Should I send along anyway?”  |
| 2/28/2006        | Bowring e-mail to Ott and Kormos   |

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|                  | <p>“Don’t wish to press you, but the deadline is midday tomorrow if the SOM is to meet its corporate goal deadline . . . I would be happy to discuss in person if that would help.”</p>  |
| 3/1/2006         | <p>Ott e-mail to Bowring and Kormos</p> <p>“I do not believe that the no CT analysis is a good proxy when you consider the opportunity cost component. . . I would certainly be more comfortable if you would remove the NO CT scenarios, but I an [sic] sensitive to your deadlines.”</p>   |
| 3/1/2006         | <p>Bowring reply, “Please call me when you are done with your meeting and we will discuss.”</p>  |
| 3/1/2006         | <p>Kormos e-mail to Bowring and Ott</p> <p>“In the future I would appreciate a red-lined version so I can quickly tell what you actually changed . . . I will defer to Andy because of the time-sensitive nature. Our concerns are similar so he can make the call. I think after the SOM is published I would like to talk about why we continue to have the same disagreements at the last hour. None of these issues were new. We have discussed them in the past so it concerns me that they continue to show up at the 11<sup>th</sup> hour.”</p> |
| 3/1/2006         | <p>Ott e-mail to Zibelman, Bowring, cc: Harris and Kormos</p> <p>“Joe and I met this morning and the immediate issue has been resolved by changing the conclusions section of the SOM. Joe, Mike and myself will meet in the near future to discuss the regulation market analysis in greater detail and to develop a plan for resolving the regulation market mitigation structure.”</p>  |
| 3/1/2006         | <p>Zibelman replies to Ott, Bowring, Harris and Kormos, “Thanks.”</p>  |
| 3/1/2006         | <p>Ott forwards Bowring e-mail chains to Hagele</p>  |
| 3/8/2006         | <p>Ott e-mail to Bowring re: Regulation analysis. Ott stated he had a discussion with Audrey and Mike yesterday, that he knows Bowring is busy with the SOM rollout, but to call Ott later this afternoon.</p>   |

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| 4/4/2007         | <p>A day before the FERC testimony, Bowring sends to his home email a document entitled, "Recent events at PJM regarding MMU," which states:</p> <p>"Independence issues: Required modifications to State of the Market Report – 2005 and 2004."</p>   |
| 4/6/2007         | <p>Bowring Memo to Harris re: State of the Market Report responding to Harris' request to provide background information on the 2005 SOM:</p> <p>Details the allegation as to 2005 SOM changes</p>   |
| 4/9/2007         | <p>MMU Employee notes from Meeting with Zibelman</p> <p>"Concern about SOM – members concern about SOM – was it changed; asked Joe to clarify that; management asked Board to investigate; impression is left that management violated tariff; exchange/discussion re: quality of work product; conclusions of MMU have to be conclusions of MMU . . . "</p> |