

# NYSRC Installed Capacity Subcommittee

Conference Call #36

**November 8, 2007**

**4:00 p.m. – 6:00 p.m**

Conference Call Minutes

## Attendees

	Present	Tel
<b>Members/Alternates :</b>		
Mr. Curt Dahl (LIPA), Chairman .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Steve Jeremko (NYSEG-RGE) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Bart Franey (National Grid) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Rajee Mustafa (NYPA) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Mark Younger (Generation Owners) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Madison Milhous (KeySpan) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Timothy Bush (Municipal Power Agency) .....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Rich Wright (CHGE) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mrs. Patricia Caletka (NYSEG-RGE) .....	<input type="checkbox"/>	<input type="checkbox"/>
Mrs. Jane Shin (Con Edison) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Mark Cordeiro (Municipal Power Agency) .....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Rajee Mustafa (NYPA) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Carlos Villalba (Con Edison), Secretary .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Han Huang (NYPA) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Advisers/Non-member Participants:</b>		
Mr. Al Adamson (Consultant) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Frank Vitale (Consultant) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. John Adams (NYISO) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Greg Drake (NYISO) .....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Ed Schrom (NYPSC) .....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Herbert Joseph (NYPSC) .....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Steve Keller (NYPSC) .....	<input type="checkbox"/>	<input type="checkbox"/>
<b>Guests Present:</b>		
Mr. Frank Ranz (NRG) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. John Charlton (NYISO) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Yuri Fishman (LIPA) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Mayer Sasson (Con Edison) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Frank Ciani ( ) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Clyde Custer (NYISO) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ms. Erin Hogan (NYSERDA) .....	<input type="checkbox"/>	<input type="checkbox"/>
Mr. Harry Joscher (PSEG Power, LLC) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Glenn Haake (Generation Owners) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. John Pade (NYISO-Consultant) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mr. Kelvin Chu (Con Edison) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 1. Basecase

Curt Dahl began the meeting by clarifying the purpose of identifying a basecase. Mr. Dahl stated that the purpose of identifying a basecase is to allow the NYISO to start running the sensitivity analyses. Mr. Dahl then introduced Mr. Yuri Fishman, his Resource Planning Manager, who explained the rationale used to determine the Tan 45 point on the IRM/LCR curve.

Mr. Fishman explained how he developed quadratic equations for all the combinations with at least 4 consecutive points. The points were previously calculated using the MARS model and sent to all members of the committee. Mr. Fishman also established a criterion to eliminate the inappropriate points. The points discarded were either outside the range of the points chosen or had a LOLE greater than 0.1. The quadratic equation that provided the highest correlation was then selected as the best curve to represent the IRM/LCR curve. The final IRM was then calculated by averaging the two Tangent 45 points from the Long Island and New York City curves.

Based on Mr. Fishman's analysis, the chosen quadratic equations yielded a 15.1% IRM from the Long Island IRM/LCR curve and a 14.7% IRM from the New York City IRM/LCR curve. Mr. Fishman then averaged the two IRMs resulting in a decrease of the Long Island IRM requirement from 15.1% to 15% and an increase of the NYC IRM requirement from 14.7% to 15%.

After Mr. Fishman's presentation, Carlos Villalba expressed his concern regarding the number of points chosen for the calculations. Mr. Villalba's concern was that the final quadratic equation chosen by Mr. Fishman only considered 4 of the 13 points calculated. Mr. Villalba agreed that some outliers could be removed from the calculations, however all points that fall within the curve segment around the tangent 45 point should have been considered. Mr. Villalba rationalized that not using all the points in this section would not entirely capture the behavior of the curve and thus the system reliability performance. Mr. Villalba continued saying that using fewer points would always result in a higher R-square fit, therefore the cases with more points would never be considered equally. Ultimately, the points calculated by MARS will not always fall perfectly on a curve and using all points around the tangent 45 point will yield a quadratic curve that better defines the IRM/LCR trade-off.

Mr. Fishman addressed all of the group's questions. Then, Mr. Dahl asked the group to endorse the methodology and the points presented by Mr. Fishman.

Mr. Villalba again opposed the endorsement by saying that there were other curve segments that qualified based on the criteria and these were more representative of the system reliability performance, by taking into account the uncertainty in the points calculated by the MARS model.

Mark Younger agreed with Mr. Villalba that there were other segments of the curve that fulfilled the requirements and that it is questionable to choose a curve with only 4 points just to get a higher R-square. Mr. Younger added that the purpose of the calculation was not to look for a perfect R-square.

John Adams clarified that the purpose of the exercise was to find the tangent 45 point around the point of interest and that adding more points would add noise to the calculation.

Mr. Dahl commented that this methodology corroborated well with the visual methodology used last year to determine the tangent 45.

Mr. Adams and Mr. Fishman claimed that if all the points suggested by Mr. Villalba and Mr. Younger were used for the calculation then the resultant tangent 45 would cut through the curve plotted without any regression. Both gentlemen visually identified the knee of the curve to be between 14% and 15.5%.

Mr. Villalba then asked Mr. Fishman and Mr. Adams how they defined the knee of the curve, because it seemed arbitrary to simply choose only certain points based on a visual inspection.

Mr. Fishman answered that inspecting the curve visually and graphically using a tangent 45 line resulted in a point close to 15% and not 15.5%. He added that a tangent 45 at 15.5% would go through the points calculated by MARS and would not be tangent.

Jane Shin asked Mr. Fishman that if the purpose of the exercise was to find the best fit then why not use only 3 points. Kelvin Chu added that the methodology established dictated that 4 points always be used, since the more points used to estimate the quadratic equation, the lower the R-square would likely to be; therefore using more points with the criteria established by Mr. Fishman was meaningless. Mr. Younger agreed with Mr. Chu.

Mayer Sasson expressed concerns about leaving information out of the curve when making an IRM determination. Mr. Sasson agreed with discarding the outliers and suggested using the 13% to 18% segment, which ensures including the knee of the curve without requiring any visual inspection.

Steve Jeremko defended LIPA arguments saying that the methodology presented here was more like a magnifying glass to the area of interest.

Mr. Villalba noted that the curve drawn by the Excel program connects one point to the next and does not attempt to make a curve out of the points entered. As a result, a visual inspection to identify the segment section that contains the tangent 45 will yield a section around 15%. This is returns to

using a visual approximation on a linearly constructed graphic by the program.

Mr. Younger noted that the error range of the points calculated by MARS was not included in the graph. Each point on the curve may deviate from where they currently are on the plot, thus using any visual inspection for the segment that contains the tangent 45 based on the current graph would not be accurate. Mr. Younger reiterated his concern about the use of only 4 points and discarding valuable information about the curve. Mr. Younger suggested using at least 5 points for the IRM determination.

Mr. Chu stated that finding the tangent 45 is a balance between goodness of correlation and data integrity. For example, the IRM proposed has a higher correlation, but omitted most of the data, therefore compromising its integrity. The methodology should define the proper balance of how the data should be used.

Mr. Fishman responded to the above arguments by saying that each individual would have a different opinion about data integrity, to which Ms. Shin replied that then it should be up to the committee to define data integrity. Mr. Franey noted that the methodology established by Mr. Fishman was never written in Policy 5 and that choosing the IRM based on this methodology was very subjective. Mr. Franey said that looking at the data either one could be tangent 45, and that Mr. Younger's argument of the MARS data error could make the 15.5% tangent 45 crossing through the curve was not a concern. Mr. Franey asked for a refinement of the Policy 5 to include this methodology.

Mr. John Adams from the NYISO indicated his support to the methodology.

Glenn Haake agreed with Mr. Younger that at least 5 points should be used (2 points at both sides of where the tangent 45 is calculated).

Mr. Sasson restated Mr. Younger's concept that when the simulation error of the points is also taken into account, the methodology should result in a band of tangent 45 lines, instead of a single solution.

Mr. Dahl called a straw poll for the two regression cases that yielded 15.5% and 15%. The results of the straw poll are shown below:

**Vote**

15	TO	Dahl, Curt, P.E. (LIPA)
15.5	TO	Villalba, Carlos (Con Edison)
	PP-M	Tim Bush (Not present) (Municipal Power Energy)
15	TO	Franey, Bart D. (National Grid)
15	TO	Jeremko, Steven T. (NYSEG-RGE)
15.5	GO	Mark Younger (Generation Owners)
15	PP-A	Han Huang (NYPA)

15 TO Wright, Rich (CHGE)

**\*\*Other Members\*\***

15 NVP Adams, John M.(NYISO)  
15 NVP Vitale, Frank J., P.E. (ICS Consultant)  
15 NVP Adamson, Alan M. (ICS Consultant)

**Note:**

TO Transmission Owners  
GO Generation Owners  
PP-A Public Power - Authorities  
PP-M Public Power - Munis and Co-ops  
NVP Non-Voting Participants

Mr. Franey proposed that the group should establish a methodology to determine the tangent 45 mathematically and include it in Policy 5.

The following is the **Next Meeting**

Meeting #83: December 5, 2007, 9:30am – 4:00pm.

*Secretary: Carlos Villalba*