

## **Explanation of Additional Information on Uplift Packages Following December 2016 MRC**

### **Package D – Charge transmission outage deviations as deviations**

Further information on the potential impact of charging Balancing Operating Reserve (BOR) charges to deviating transmission outages is shown at a high level in the “2017 EMUSTF Information.xls” on the sheet titled “Package D”.

The table shows the amount of transmission outage deviations that caused congestion in 2015 and 2016 in column D. From this number and the total number of deviations in each year, the average amount of transmission outage deviations per instance in order to reduce the average deviations rate by 10% is calculated in column E.

In 2015, each transmission outage deviation occurrence would have had to have been 44,385.1 MWh of deviations in order to change the average deviations rate by about 10%. In 2016, the average number of deviations per instance would have had to be 76,907.5 MWh.

The average rating for a 500 kV line is approximately 2500 MW. Column E shows the number of hours a 500 kV outage would have been delayed in order to meet the average MWh per instance shown in column D. This is a very conservative estimate because a large majority of PJM’s system is less than 500 kV (345 kV, 138 kV, etc.).

### **Package Q – Status quo + charge UTCs as a source and sink transaction + remove IBT netting**

Additional information for Package Q (and Package T) is posted in the excel sheet titled “2017 EMUSTF Information.xls”. The information contains deviation information for the period of January 2015 through September 2015. The data regarding deviations by transaction type, with the exception of UTCs, were obtained from the 2015 Annual State of the Market Report for PJM<sup>1</sup> and the 2016 Quarterly State of the Market Report for PJM: January through September<sup>2</sup> published by Monitoring Analytics in the Energy Uplift section. The data in the “UTCs (1x)” rows were obtained from a public PJM posting titled “Daily Cleared INCs, DECs and UTCs”<sup>3</sup> on the Energy Market page of PJM.com. All other cells are calculated from that source data.

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<sup>1</sup> [http://www.monitoringanalytics.com/reports/PJM\\_State\\_of\\_the\\_Market/2015.shtml](http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2015.shtml)

<sup>2</sup> [http://www.monitoringanalytics.com/reports/PJM\\_State\\_of\\_the\\_Market/2016.shtml](http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2016.shtml)

<sup>3</sup> <http://www.pjm.com/pub/market/energy/da-convergence-contracts/daily-cleared-convergence-contracts.xlsx>

Historic Day-ahead and Balancing Operating Reserve Rates can be found in the Market Settlements section of PJM.com. From [www.pjm.com](http://www.pjm.com), click the Markets & Operations heading at the top of the page and then Billing, Settlements and Credit on the left hand link bar.

*2015:*

In 2015 there were about 137 million MW of deviations that were allocated a BOR charge. During that same period, there were about 169 million MW of UTCs that cleared in the Day-ahead Market. If these cleared UTCs were included in the total number of deviations as a source and a sink deviation the resulting rates for BOR charges would have been reduced by about 71%.

*January through September 2016:*

During the 2016 period there were about 118 million MW of deviations that were allocated a BOR charge. During that same period, there were about 221 million MW of UTCs that cleared in the Day-ahead Market. If these cleared UTCs were included in the total number of deviations as a source and a sink deviation the resulting rates for BOR charges would have been reduced by about 79%.

NOTE: The additional data provided and impacts do not include the impacts of removing the ability for IBTs to net against other deviations. This change would also increase the number of deviations and thus further reduce the per MWh rate.

#### **Package S – PJM/IMM joint package modeled after IMM package but keeps DAOR and allocation**

Backcasted rates for Package S are contained on the “Package S” tab of the “2017 EMUSTF Information.xls” spreadsheet.

#### **Package T - Status quo + charge UTCs as a single transaction**

The additional analysis for Package T is included in the same spreadsheet as Package Q. The “UTCs (1x)” and “TOTAL YYYY + UTCs (1x) – Package T” are the relevant records to show the impact of allocating UTCs a single deviation charge in 2015 and 2016.

*2015:*

In 2015 there were about 137 million MW of deviations that were allocated a BOR charge. During that same period, there were about 169 million MW of UTCs that cleared in the Day-ahead Market. If these cleared UTCs were included in the total number of deviations the resulting rates for BOR charges would have been reduced by about 55%.

*January through September 2016:*

During the 2016 period there were about 118 million MW of deviations that were allocated a BOR charge. During that same period, there were about 221 million MW of UTCs that cleared in the Day-ahead Market. If these cleared UTCs were included in the total number of deviations the resulting rates for BOR charges would have been reduced by about 65%.

## **Package U – Remove four interval test**

The four interval test is **applied only to resources that are committed during the operating day** and required a make whole payment. Resources committed prior to the operating day are not subject to this test. If the resource committed is economic for at least four intervals during its run time its make whole payment is allocated to deviations. If it is not, the charge is allocated to load.

Notwithstanding commitment reasons with specific cost allocation provisions in the Tariff (reactive, blackstart, etc.), the four interval test is sole determinant of how the allocation of uplift payments for resources committed during the operating day are allocated. There is no default allocation under today's rules and the proposal as it stands does not provide information on what the replacement for this test would be.

For the purpose of this analysis, PJM is providing the total amount of Balancing Operating Reserve Credits paid to resources committed during the operating day only. Today, this value is allocated to load and deviations based on the results of the four interval test. If these credits were no longer allocated to deviations and focused solely to load, it would result in a reduction of Balancing Operating Reserve Charges to deviations of the shown quantities.

In 2015, there were \$95 million dollars of uplift that were subject to the four interval test. Of that \$95 million, \$41.1 million was allocated to load (Reliability) and \$53.9 million was allocated to deviations. If the four interval test were removed and all of the \$95 million were allocated to loads, it would be a \$53.9 million shift in cost allocation, or about 17.6% of the total uplift in 2015.

In 2016, there were \$53.2 million dollars of uplift that were subject to the four interval test. Of that \$53.2 million, \$22.9 million was allocated to load (Reliability) and \$30.3 million was allocated to deviations. If the four interval test were removed and all of the \$53.2 million were allocated to loads, it would be a \$30.3 million shift in cost allocation, or about 22.3% of the total uplift in 2016.