

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

UNITED STATES OF AMERICA,	)	
	)	
<i>Petitioner,</i>	)	Supplemental Action to
	)	Civil No. 1:11-cv-02276
v.	)	
	)	
EXELON CORPORATION,	)	
	)	
<i>Respondent.</i>	)	
	)	

**MEMORANDUM OF THE UNITED STATES IN SUPPORT OF  
MOTION TO ENTER THE SETTLEMENT AGREEMENT AND ORDER**

Petitioner, the United States of America, submits this memorandum in support of its motion for entry of the attached Settlement Agreement and Order (“Settlement”). The United States’s Petition, filed simultaneously with the Settlement and this Memorandum, alleges that Exelon Corporation (“Exelon”) violated this Court’s Hold Separate Stipulation and Order (“Hold Separate”) and Final Judgment entered in *United States v. Exelon Corp.*, Civil No. 1:11-cv-02276, by submitting certain offers to sell electricity at prices higher than the cost-based limits required by the Hold Separate and by failing to take all steps necessary to comply with the Hold Separate.<sup>1</sup> The United States respectfully requests that the Court enter the Settlement, which requires Exelon to make a civil payment of \$400,000 to the United States Treasury to resolve the United States’s claims.<sup>2</sup>

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<sup>1</sup> See Petition by the United States for an Order to Show Cause Why Respondent Exelon Corporation Should Not Be Found In Civil Contempt, filed simultaneously with the Settlement and this Memorandum.

<sup>2</sup> The procedures of the Antitrust Procedures and Penalties Act (“Tunney Act”), 15 U.S.C. § 16 (b)-(h), are not required in this action. The Tunney Act requires that any proposal for a “consent judgment” submitted by the United States in a civil case filed “under the antitrust laws.” Because the Settlement provides for only the payment of civil penalties to remedy a contempt violation, the procedures of the Tunney Act are not required in this action. A settlement seeking only monetary penalties is not the type of “consent judgment” contemplated by the Tunney Act.

Exelon asserts, and the United States does not dispute, that the above-cost offers were inadvertent. Exelon, upon recognizing that it had made the above-cost offers, took certain remedial steps, including notifying the United States and market regulators of the offers, agreeing with market regulators to return any incremental revenues Exelon had earned and to redress any market harm, and implementing measures to ensure that no additional above-cost offers occurred.

Exelon's failure to take all steps necessary to comply with the Hold Separate *prior to* submitting its offers, however, was not addressed by these measures. Simply put, Exelon obtained benefits pursuant to the Hold Separate while failing to honor its obligations. The Settlement remedies this violation and unjust enrichment by depriving Exelon of ill-gotten gains.

## **I. Background**

### **A. The Hold Separate**

On April 28, 2011, Exelon announced its intention to acquire Constellation Energy Group, Inc. Both companies owned and operated electric generating assets in the mid-Atlantic region of the United States. On December 21, 2011, the United States filed with this Court a Complaint under Section 7 of the Clayton Act alleging that the proposed transaction would substantially lessen competition in the provision of wholesale electricity in certain markets within the PJM marketing area. PJM is an independent regional transmission organization, sanctioned by the Federal Energy Regulatory Commission ("FERC"), that manages the high-voltage transmission grid, coordinates the wholesale electricity market, and conducts daily auctions for wholesale electricity in an area stretching from Illinois to New Jersey.

At the same time, the United States filed with this Court a proposed settlement, agreed to by Exelon and Constellation, that resolved the United States's concerns by requiring the

divestiture of three generating units (“the Divestiture Assets”). In connection with the settlement, the United States also submitted the Hold Separate Stipulation and Order (“Hold Separate”), agreed to by Exelon and Constellation, which provided in part that Exelon would offer certain generating units into the PJM wholesale energy auction at or below cost<sup>3</sup> from the time Exelon’s acquisition of Constellation closed until the time the Divestiture Assets were sold, *i.e.*, the time period in which Exelon would own the combined assets of both companies including the Divestiture Assets. This requirement was designed to ensure that Exelon would not offer its generation into the PJM auctions in ways that would allow Exelon to raise market prices.<sup>4</sup> In addition to requiring cost-based offers, the Hold Separate also required Exelon to submit status reports to the United States every two weeks providing detailed information about Exelon’s offers. This Court signed and entered the Hold Separate on December 30, 2011. Exelon also specifically agreed in the proposed Final Judgment<sup>5</sup> to “take all steps necessary to comply” with the requirements of the Hold Separate, which included the requirement that Exelon make cost-based offers during the period of the Hold Separate.<sup>6</sup>

Both FERC and the State of Maryland Public Service Commission (“PSC”) also reviewed Exelon’s proposed acquisition of Constellation, and both had conditioned their approval of the deal on Exelon submitting cost-based offers for certain units and periods of time.

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<sup>3</sup> Acceptable costs were defined in reference to well-established PJM rules. *See* Hold Separate Section VI.A. Section I.E. of the Hold Separate defines “Cost-Based Offer” as “the maximum offer to sell energy allowed under the version of the PJM ‘Amended and Restated Operating Agreement of PJM Interconnection, LLC,’ Section 6.4, available at [<http://www.pjm.com/>] in effect at the time the offer is made.”

<sup>4</sup> *See* Competitive Impact Statement, Dkt #3, at 15. The PJM auction “market-clearing price” is essentially determined by the highest-priced generation offer that is accepted by PJM to meet demand, and all sellers receive that price, regardless of their offer or their costs. *See generally* Competitive Impact Statement, Dkt #3, at 4-6 (explaining the process for determining market-clearing prices).

<sup>5</sup> After completion of the procedures required by the Tunney Act, this Court signed and entered the Final Judgment on May 23, 2012.

<sup>6</sup> Final Judgment, Dkt. #13, at Section VIII. Exelon agreed, from the date of the signing of the Hold Separate, to “comply with all the terms and provisions of the proposed Final Judgment as though the same were in full force and effect as an order of the Court.” Hold Separate, Section IV.B.

**B. Exelon Identifies Violations of the Hold Separate**

Exelon closed its acquisition of Constellation on March 12, 2012. From that date forward, Exelon was bound by the terms of the Hold Separate, including its commitment to make cost-based offers as required by the Hold Separate.

On March 27, 2012, Exelon notified the United States that, while preparing the first biweekly report required by the Hold Separate, Exelon had discovered that it submitted offers to PJM that exceeded the cost-based offer limits of the Hold Separate during the first two weeks that Exelon was bound by the Hold Separate. Exelon explained that the improper offers were inadvertent. On April 6, 2012, Exelon submitted an initial report on those offers to the United States, FERC, and the PSC. (“Initial Report,” attached hereto as Exhibit 1.)

After identifying these above-cost offers, Exelon undertook a “top-to-bottom” review of its offers and implemented additional procedures and safeguards to ensure that its offers met the requirements of the Hold Separate. Exelon also responded to requests for information from the Antitrust Division and made employees available for interviews as part of the Antitrust Division’s investigation into the above-cost offers.

The PJM Independent Market Monitor (“IMM”) initially estimated Exelon’s incremental profits from the above-cost offers and the impact of the above-cost offers on Maryland consumers. Based on these initial estimates, Exelon agreed to return \$141,000 to PJM and \$151,000 to Maryland.<sup>7</sup>

On August 10, 2012, Exelon submitted to the United States, FERC, and the Maryland PSC a final report providing the results of Exelon’s internal review of the above-cost offers and the steps the company took in response to ensure prospective compliance with its obligations.

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<sup>7</sup> Exelon also returned to PJM approximately \$113,000 in “operating reserves” or “make-whole payments” that Exelon was paid by PJM; these payments would not have been made if Exelon had submitted cost-based offers consistent with the Hold Separate.

*See generally* “Final Report,”<sup>8</sup> attached as Exh. 2. In the Final Report, Exelon identified a total of nine sets of units for which above-cost offers had been submitted at various times following its acquisition of Constellation. PJM, at Exelon’s request, analyzed the effect of the above-cost offers and concluded that (1) Exelon did not earn any incremental profits from the above-cost offers and (2) the total harm to the market from all of the above-cost offers was less than about \$100,000. *See* Final Report, “Exhibit B: Summary of Payments to Correct Errors in Cost-Based Offers.” Exelon has stated that it will make the payments that it previously agreed to make in response to the IMM’s initial estimates. Final Report at 9.

## **II. Discussion**

Hold separate agreements are critical for the proper functioning of the consent decree process used by the United States to resolve competitive concerns arising from proposed mergers. By entering into hold separates, parties obtain a valuable benefit – the United States will not object to parties closing their transactions before completing the required divestitures. Here, Exelon benefitted from entering into the Hold Separate, which allowed it to close the acquisition of Constellation – and earn profits from the former Constellation assets – prior to completing the divestitures required by the Final Judgment.<sup>9</sup> In return, the United States expected – and the Court ordered – Exelon to comply fully with the Hold Separate’s provisions.

The Hold Separate here was clear and unambiguous in describing Exelon’s obligations. It is undisputed that Exelon, in contempt of this Court’s Hold Separate, submitted offers that exceeded the cost-based levels required by the Hold Separate’s express terms.<sup>10</sup> It is also the

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<sup>8</sup> Exelon Corporation, “Results of the Top-to-Bottom Review of Exelon’s Program for Calculating Costs Under PJM Energy Offer-Cap Commitments and Summary of Actions Taken to Remedy All Issues,” August 10, 2012.

<sup>9</sup> Exelon, for example, earned more than \$1 million in the first two weeks under the Hold Separate from the Constellation assets that were subject to the Hold Separate.

<sup>10</sup> Section XII of the Final Judgment provides that the Court retains jurisdiction to enforce its compliance. Moreover, federal courts enjoy inherent contempt power, *FG Hemisphere Assocs., LLC v. Dem. Rep. of Congo*, 637 F.3d 373, 377 (D.C. Cir. 2011), and “are empowered to issue civil contempt sanctions to ‘protect[ ] the due and

case that Exelon, prior to submitting its above-cost offers, failed to take “all steps necessary to comply” with the Hold Separate, as required by the Final Judgment. The Settlement, which is separate and above the amounts that Exelon has already paid or committed to pay PJM and Maryland, provides that Exelon will disgorge certain profits it earned during the period of the violations on the Constellation plants that were subject to the Hold Separate.<sup>11</sup> The amount, which is the product of settlement, deprives Exelon of unjust enrichment from its violation of this Court’s orders while crediting Exelon for the appropriate steps it took to address the above-cost offers after recognizing that they had been made.

### **III. Conclusion**

For the reasons set forth above, the United States respectfully requests that the Court enter the Settlement.

Dated: November 14, 2012

Respectfully submitted,

/s/

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orderly administration of justice and . . . maintain [ ] the authority and dignity of the court.” *Goya v. Wallach Mgmt.*, 290 F.3d 63, 78 (1<sup>st</sup> Cir. 2002) (quoting *Roadway Express, Inc. v. Piper*, 447 U.S. 752, 764 (1980).

<sup>11</sup> See generally *Manhattan Industries, Inc. v. Sweater Bee by Banff, Ltd.*, 885 F.2d 1, 6 (2d Cir. 1989) (“[A]n award based on the defendant’s profits, resting upon principles of unjust enrichment, focuses on the defendant’s wrongdoing, not on damage to the plaintiff.”).

# Exhibit 1

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**REPORT REGARDING INADVERTENT  
SUBMISSION OF OFFERS THAT WERE HIGHER  
THAN PERMITTED UNDER MERGER COMMITMENT**

This report describes the circumstances under which offers for certain units previously owned by Constellation Energy ("Constellation") were inadvertently submitted to PJM at levels slightly higher than permitted under the interim market power mitigation commitment made by Exelon Corporation ("Exelon") and Constellation (collectively, the "Companies") in connection with their merger. The offers at issue were made in the first two weeks after the merger was consummated on March 12, 2012. Under the interim market power mitigation commitment, the Companies agreed to cap their offers into PJM for 75 units at cost-based levels on an interim basis pending divestiture of three generation stations. Some of the offers also violated similar restrictions in the Companies' settlement (the "IMM Settlement") with the PJM Market Monitor, although as explained below the offers that conflicted with the IMM Settlement were for peaking units with costs well above the PJM market price on these days and thus the units were not committed.

The incorrect offers resulted from legacy computer software program code on Constellation's software that correctly calculated the allowable costs at minimum unit load levels, but overestimated the costs at full load operating conditions. The issue with the legacy program code was detected two weeks after the merger closed. It did not affect the offers submitted for units owned by Exelon prior to the merger ("Exelon Units"), but only offers for 10 of the units owned by Constellation prior to the Merger ("Constellation Units"). Moreover, the above cost offers were accepted by PJM for only 2 of the Constellation Units, neither of which is a peaker subject to the IMM Settlement. Exelon has corrected the program codes in the Constellation software and Exelon is working with PJM to implement adjustments to the PJM invoices in order



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to ensure that Exelon does not receive any more revenues than permitted under the offer cap commitments.

**Background*****(1) Interim Market Power Mitigation Commitment***

In connection with the merger between Exelon and Constellation, the Companies committed to divest certain generation units in order to mitigate market power concerns resulting from the merger. The Companies recognized that these generation units could not be divested immediately upon the closing of the merger. Consequently, they made an interim market power mitigation commitment that will apply from the closing of the merger until the divested units are transferred to their new owners.

The interim market power commitment applies, with limited exceptions, to all of the fossil-fired and hydro units owned or controlled by Exelon and Constellation that are located in the AP South, PJM East, and 5004/5005 regions of PJM (the "Mitigated Units").<sup>1</sup> Under the interim commitment, all Mitigated Units, including both Exelon and Constellation Units, are subject to cost based caps equal to the maximum cost based price allowed under the version of the PJM "Amended and Restated Operating Agreement of PJM Interconnection, LLC," (the "PJM Operating Agreement"), Schedule 1, Section 6.4.2(a)ii and iii, available at [www.pjm.com](http://www.pjm.com), in effect at the time the offer is made.<sup>2</sup>

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<sup>1</sup> Attached as Exhibit A is a list of the Mitigated Units, which identifies which of the units are Exelon Units and which are Constellation Units.

<sup>2</sup> Currently, this limits offers to the variable cost of a unit, plus an adder, where variable cost is defined in PJM's Cost Development Task Force ("CDTF") rules, PJM Manual 15, and where the level of the adder for each unit is dependent on whether or not PJM has classified the unit as a frequently mitigated unit ("FMU"). Normally, this means a 10% adder for non-FMU units, and a fixed percentage and/or a fixed \$/MWh adder for FMUs.

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This interim commitment was made to three different agencies: (1) the Federal Energy Regulatory Commission ("FERC") in connection with its review of the merger under Section 203 of the Federal Power Act; (2) the Department of Justice ("DOJ") in connection with a Hold Separate Stipulation and Order entered into as part of the consent decree resulting from DOJ's review of the merger under the Hart-Scott-Rodino Antitrust Improvements Act of 1976;<sup>3</sup> and (3) the Maryland Public Service Commission ("MPSC") in connection of its review of the merger under Section 6-105 of the Maryland Public Utility Article.

**(2) *The IMM Settlement***

In addition, the Companies committed to FERC and the MPSC to abide by certain bidding restrictions contained under the IMM Settlement, including offer caps on the Companies' peaking generation facilities. The offer caps for peaking facilities were based on the same cost based caps applicable under the interim mitigation commitment, plus one dollar.<sup>4</sup>

**(3) *Implementation of Bid Cap Commitments***

Prior to the merger, Exelon and Constellation devoted considerable attention and resources to ensuring that the bid cap commitments would be properly implemented on the first day following the close of the merger, which occurred on March 12, 2012.

- (a) Protocols were developed to enable compliance with the commitments, including the development of a daily process for compliance.
- (b) The Companies' staffs were trained to ensure that they understood the commitments and were able to implement them under the established protocols.

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<sup>3</sup> The consent decree is pending before the U.S. District Court for the District of Columbia. Nevertheless, the obligations of the Hold Separate Agreement became effective upon consummation of the merger.

<sup>4</sup> The IMM Settlement also includes offer caps applicable to offers from nuclear units. However, those caps are not implicated by the software error described in this report.

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- (c) An automated report was designed to capture the offer data on a daily basis in order to provide periodic reports to DOJ in accordance with the Hold Separate Stipulation and Order and to allow independent monitoring pursuant to FERC's order.

The protocols developed by the Companies were designed to ensure that the offers submitted for the Mitigated Units did not exceed the maximum cost based offers that could be made for those units under the CDTF rules, as required by the bid cap commitments.<sup>5</sup>

### **The Inadvertent Problem**

As required by the bid cap commitments, the Companies began implementing the bid caps on March 13, the day following the closing of the merger. For the most part, the compliance protocols worked exactly as required. The maximum CDTF cost based offer was correctly calculated on a daily basis and communicated to those staff members who submit the offers. The offers were correctly entered into the Constellation software program that converts the offers into the PJM-required format and communicates them to PJM. Daily reports were generated and calculated.

However, upon subsequent review of the daily reports, Exelon determined that, for certain units, Constellation's computer software that converts and communicates the offers to PJM failed to convert the accurately-entered data into the correct offers for submission to PJM. This occurred only when calculating the offers for dispatchable Constellation Units, where the maximum cost based price varies depending on the level at which the unit is loaded. For these units, as required by PJM, Exelon submitted a "no load" offer, as well as an offer curve that established cost based offers for each point on the dispatch curve between minimum load operations and maximum load. The software correctly calculated the cost based offer when the

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<sup>5</sup> The commitments do not prevent the Companies from submitting cost based offers to PJM that are lower than the maximum cost based offers permitted under the CDTF rules, and some of the cost based bids for certain Constellation Units have been lower than the maximum cost based cap.

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units operate at minimum load levels. However, the software calculated offers at prices that began to exceed appropriate cost based offers as the unit load levels began to exceed minimum loads. The extent to which the offers exceeded the bid cap commitments at maximum loads ranged from approximately 2% to 13% above the bid cap, depending on the unit and the date of the offer.

**(1) *The Program Code Affected Only a Limited Number of Units for Only a Limited Number of Days and Only in the PJM Energy Market***

Although the bid cap commitments apply to 75 units, the effect of the software problem was limited:

- (a) The Exelon software application used for communicating the cost based bid caps for the 40 Exelon Units did not have the same problem.
- (b) The problem with Constellation's software application affected only offers submitted for 10 Constellation Units that are dispatchable and where offer curves were submitted to PJM (the "Affected Units"). Attached as Exhibit B is a list of the Affected Units. There were no problems with respect to Constellation's non-dispatchable units.
- (c) Exelon took steps (described below) to correct the problem immediately upon discovering that the software was causing Exelon to inadvertently submit offers that exceeded the appropriate cost based offer cap. Consequently, the erroneous offers were limited to the first two weeks after the merger closed, which is March 13 – March 27, 2012.
- (d) The Constellation software application only affected offers into the PJM Energy market. There was no violation of any of the bid cap commitments relating to offers in the PJM ancillary services markets. Those offers were at levels below the cost based offer cap.

**(2) *The Program Code Affected the Commitments for Only Two of the Affected Units and For Only a Portion of the Two Week Period***

Moreover, although the software problem applied to offers submitted for each of the 10 Affected Units, the problem affected commitments for only two of the Affected Units – Brandon Shores 2 and Wagner 3. Even then, the problem did not affect the commitments for these units for the entire two week period of March 13- 27:

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- (a) Although offers were submitted for all Affected Units, a number of these units were down for maintenance or planned outages and thus were not available for commitment. These units are identified on Exhibits B and C to this Report.
- (b) The offer curves submitted for many of the other Affected Units were significantly out of the money, *i.e.* the offers were higher than the market clearing price determined by PJM and thus the units were not committed. This would have been the case even if the correct cost based offers had been submitted to PJM. As a consequence, even though the offers submitted for these units exceeded the cost based offer caps under the Companies' commitment, those offers did not affect the revenues received by Exelon for those units.<sup>6</sup> These offers are identified on Exhibit D to this Report.
- (c) The offer curves submitted for certain of the units on some of the days were well below the maximum cost based cap in order to ensure, for operational reasons, that the units were committed on those days. Consequently, the offer curves did not violate the bid cap commitments on those days, even though the units were committed by PJM. These offers are identified on Exhibit E to this Report.

Brandon Shores 2, however, was committed by PJM from March 13-March 23.<sup>7</sup> In addition, Wagner 3 was committed by PJM on March 20 and from March 24 to March 26.<sup>8</sup> These units therefore were selected by PJM based on an offer curve that at some points slightly exceeded the maximum offer permitted under the Companies' bid cap commitments – in each case the offer submitted at the maximum load point on the offer curves exceeded the bid cap by less than 5%. Neither of these units is considered a peaking unit under the IMM Settlement, and thus the offers for these units did not violate the IMM Settlement.

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<sup>6</sup> This was the case for all of the Affected Units that are considered peakers and thus are subject to the offer caps under the IMM Settlement. The Affected Units that are considered to be peaking units under the IMM Settlement are identified on Exhibit B

<sup>7</sup> From March 24-26, Brandon Shores 2 was on a maintenance outage, and was self scheduled on March 27, in order to ensure that it could come back on line at the conclusion of its maintenance outage. Under PJM rules, self scheduled units are permitted to operate as price takers without considering their costs in the commitment process. As a consequence, Brandon Shores 2 operated on March 27 even though it was not committed by PJM based on its offer.

<sup>8</sup> On March 20, Wagner 3 was committed for only a portion of the day (from HE 10-23). Wagner 3 also was committed by PJM on March 23 and March 27, but its offers on those days were below the maximum cost based cap, and thus the offers for Wagner 3 on those days were not in excess of the bid cap commitments.

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***(3) Corrective Action Taken by Exelon***

Exelon took corrective action immediately upon identifying the problem. First, even before attempting to determine the source of the software problem, on March 28 Exelon reduced the allowable cost adder on the affected Constellation Units from 10% to 3%. This temporary fix was designed to prevent the program from deriving an offer that exceeds the cost based offer cap at points above the minimum load point on the offer curve. Later that same day, Exelon identified and corrected the problem with the software. . The corrected software was applied to offers into the PJM Energy market submitted with an effective date of March 29 and thereafter. In order to ensure that the software correction was working appropriately, Exelon also continued until March 31 to reduce the allowable adder for the Affected Units to 3%.

In addition, Exelon is working with PJM to adjust Exelon's invoices for March and April. These adjustments will ensure that the revenues Exelon receives from PJM do not exceed the total energy revenues (energy and operating reserve payments) that Exelon should have received under the Companies' interim mitigation commitment.

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**Data Provided With This Report**

Attached to this report are the following exhibits providing more details underlying the report. These exhibits are as follows:

**Exhibit A** A list of all of the Mitigated Units, indicating: (1) which are Exelon Units and which are Constellation Units; (2) fuel type; and (3) which units are the Affected Units.

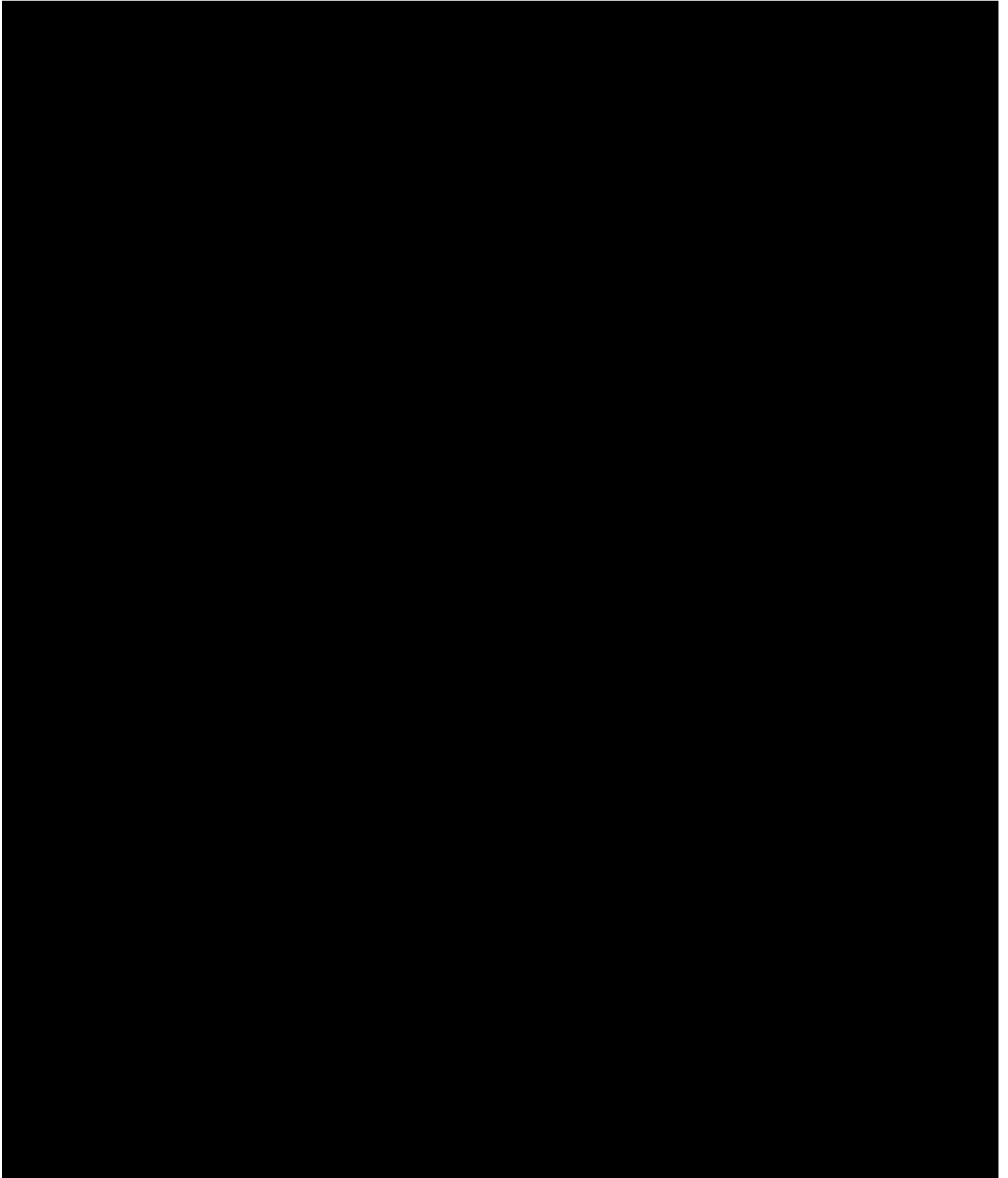
**Exhibit B** A list of the Affected Units, showing for the March 13-27 period: (1) which units were subject to outages, (2) which units submitted maximum cost based offers that were well above the market price and thus were not committed; (3) which units submitted offers that were well below the bid cap commitments; and (4) which units submitted offers at some point in the period that were above the bid cap commitments.

**Exhibit C:** For each of the Affected Units, a listing for each day from March 13 through March 27, 2012 indicating: (1) the status of the unit; (2) the cost based bid cap at maximum load; (3) the offer price at maximum load; (4) the cost based bid cap at minimum load; (5) the offer price at minimum load; (6) the percentage difference between the offer price and the cost based bid cap at maximum load; and (7) the average day-ahead locational marginal price.

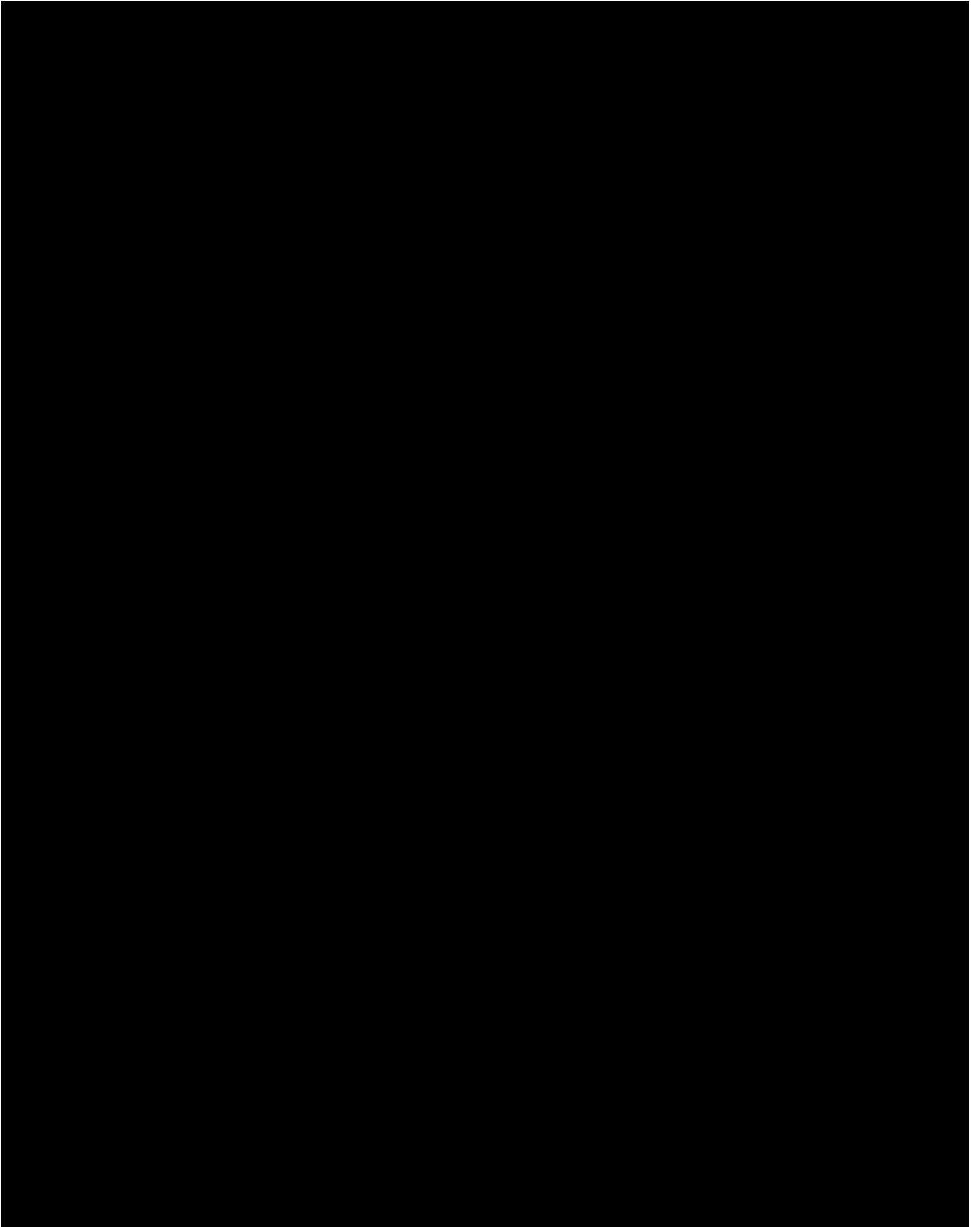
**Exhibit D** Analysis showing which of the Affected Units were clearly out of the money and for which the software problem had no effect on whether the units were committed.

**Exhibit E** Analysis showing which of the Affected Units submitted offers that were below the bid cap commitments.

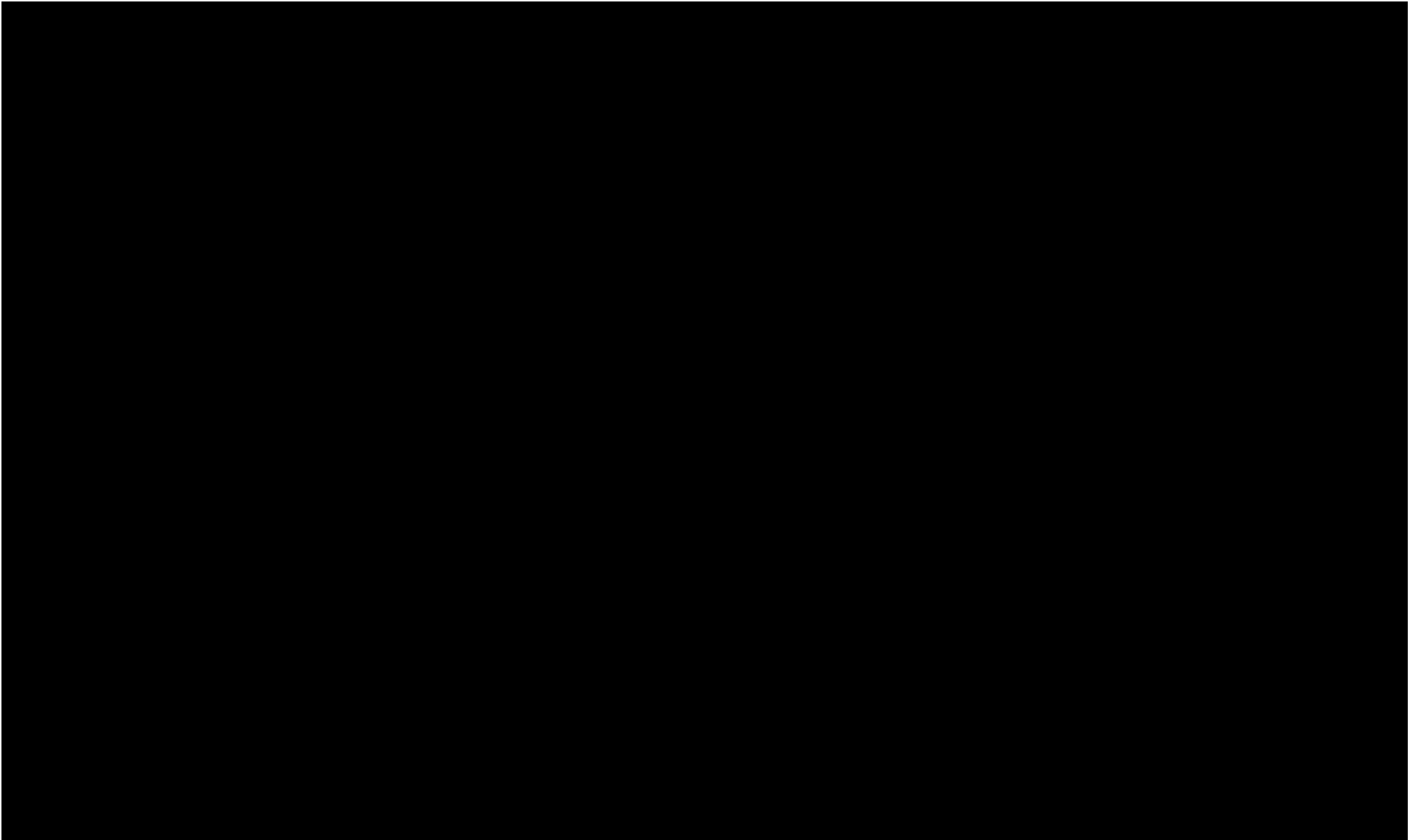
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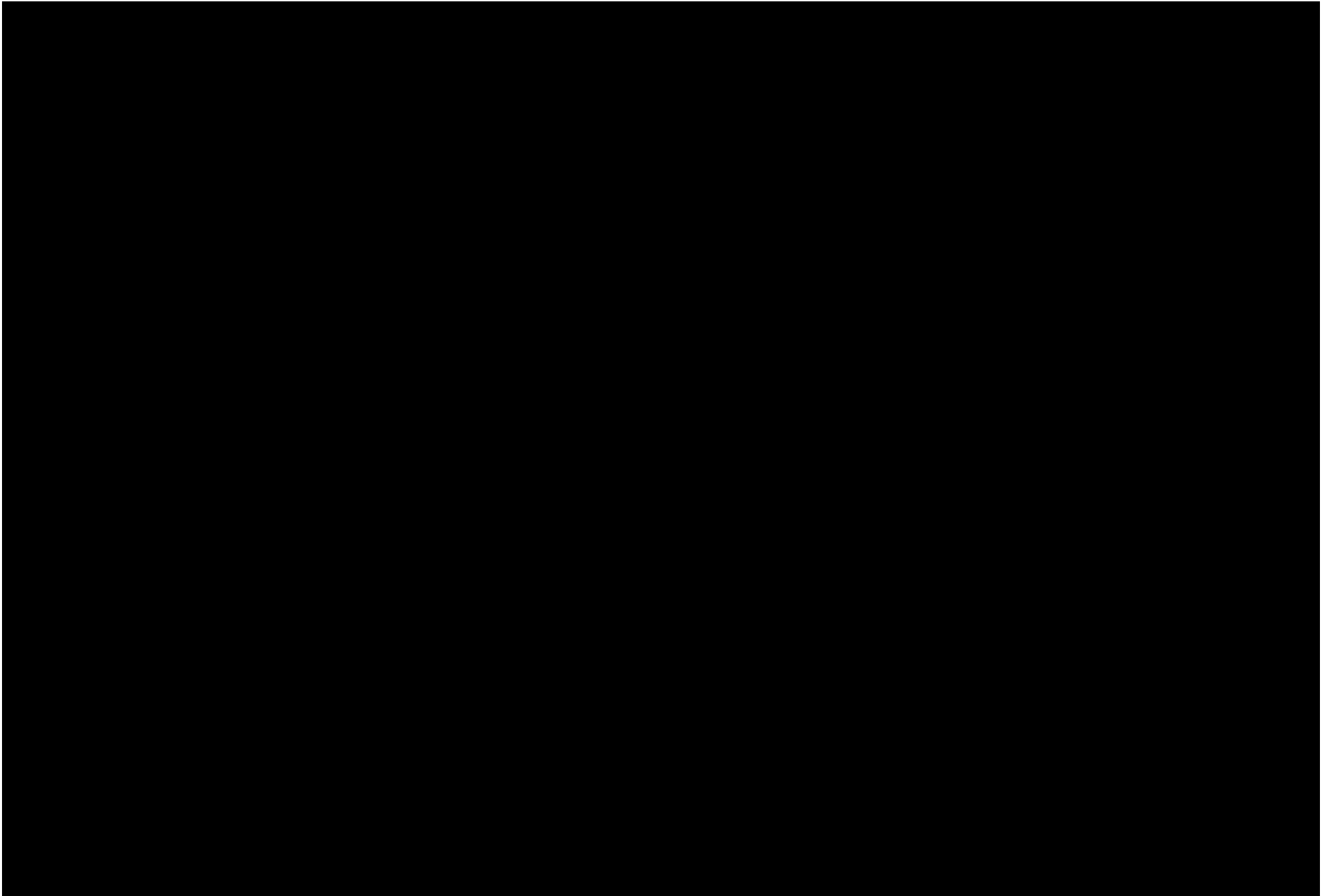




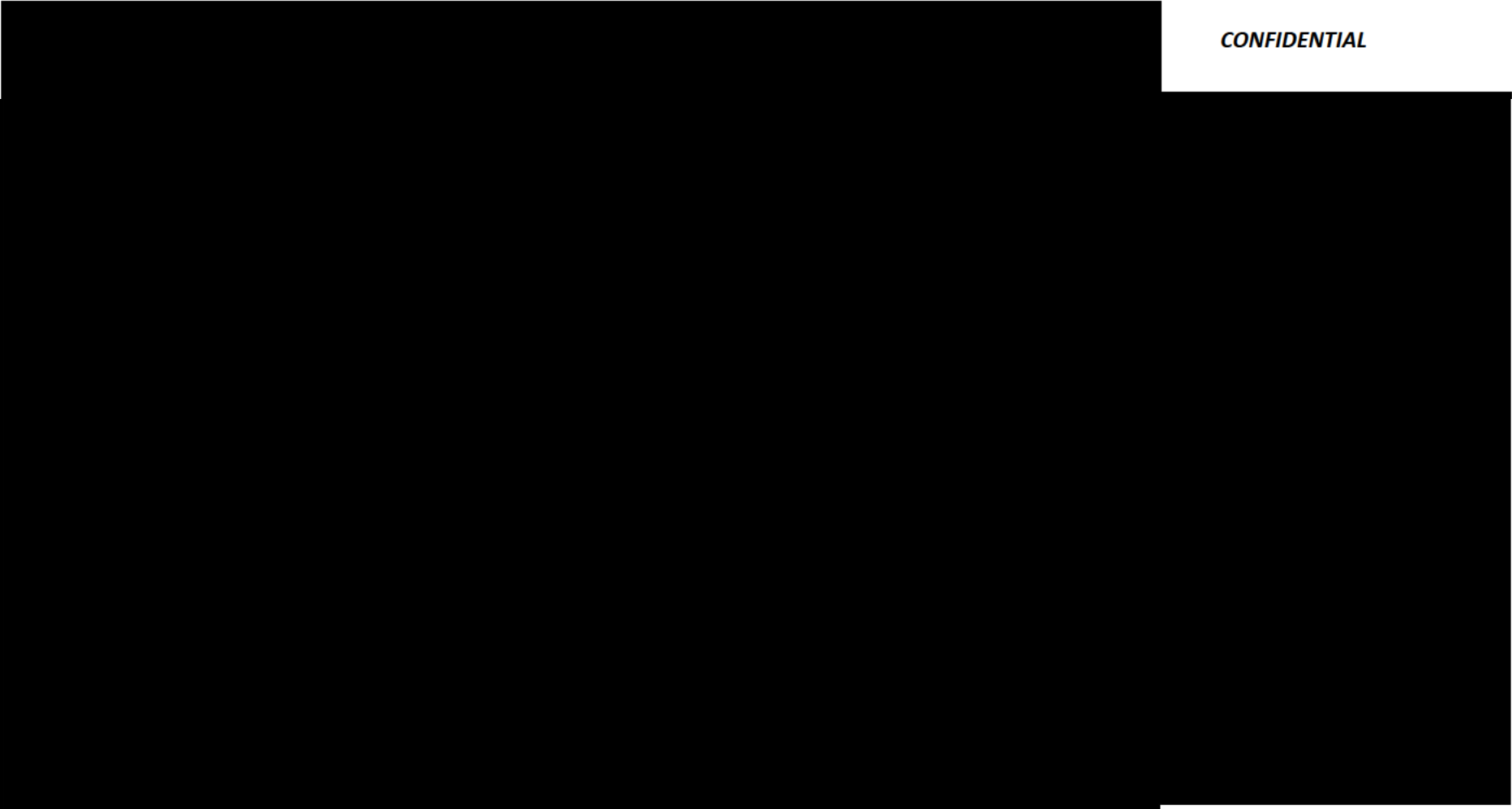
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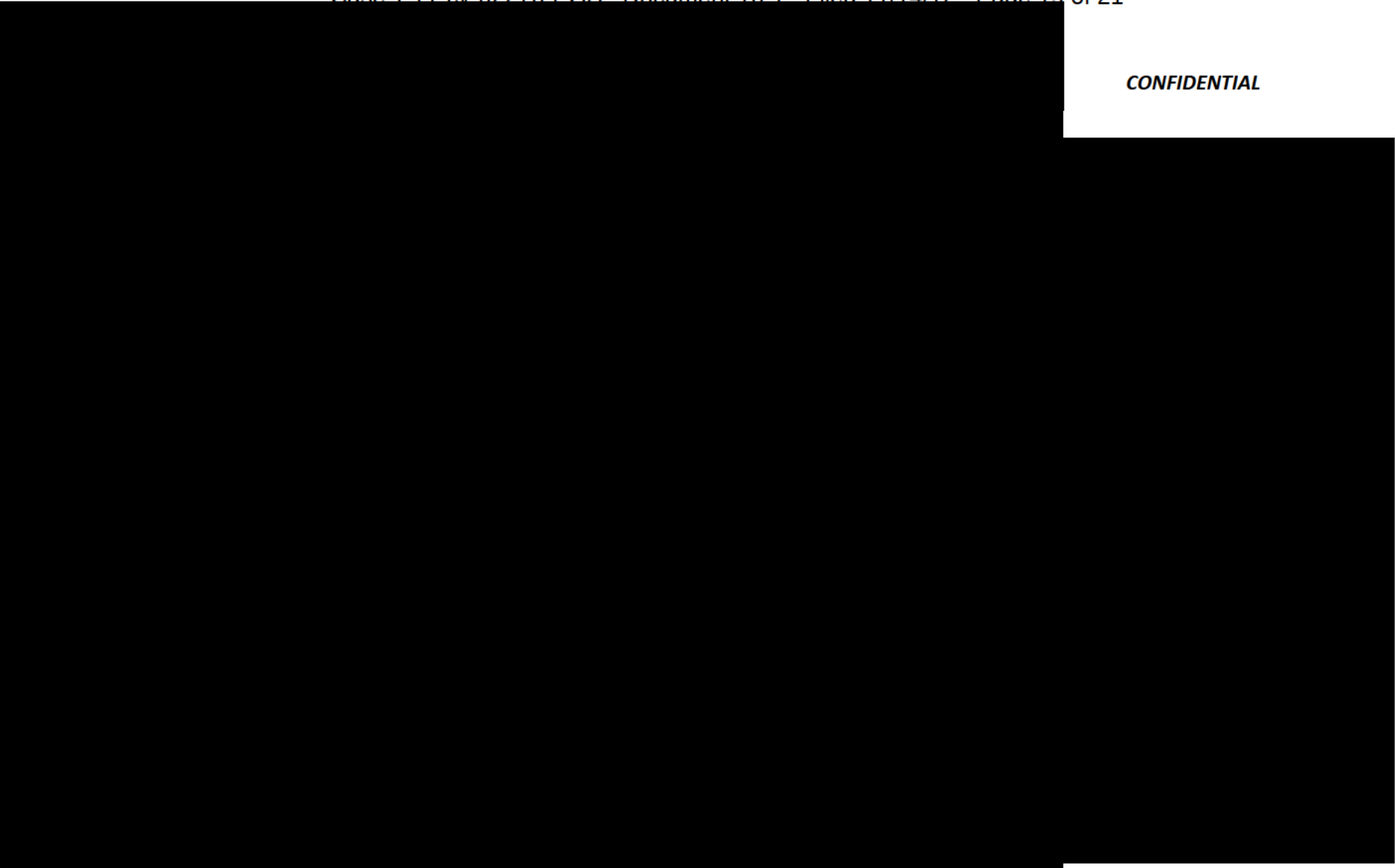


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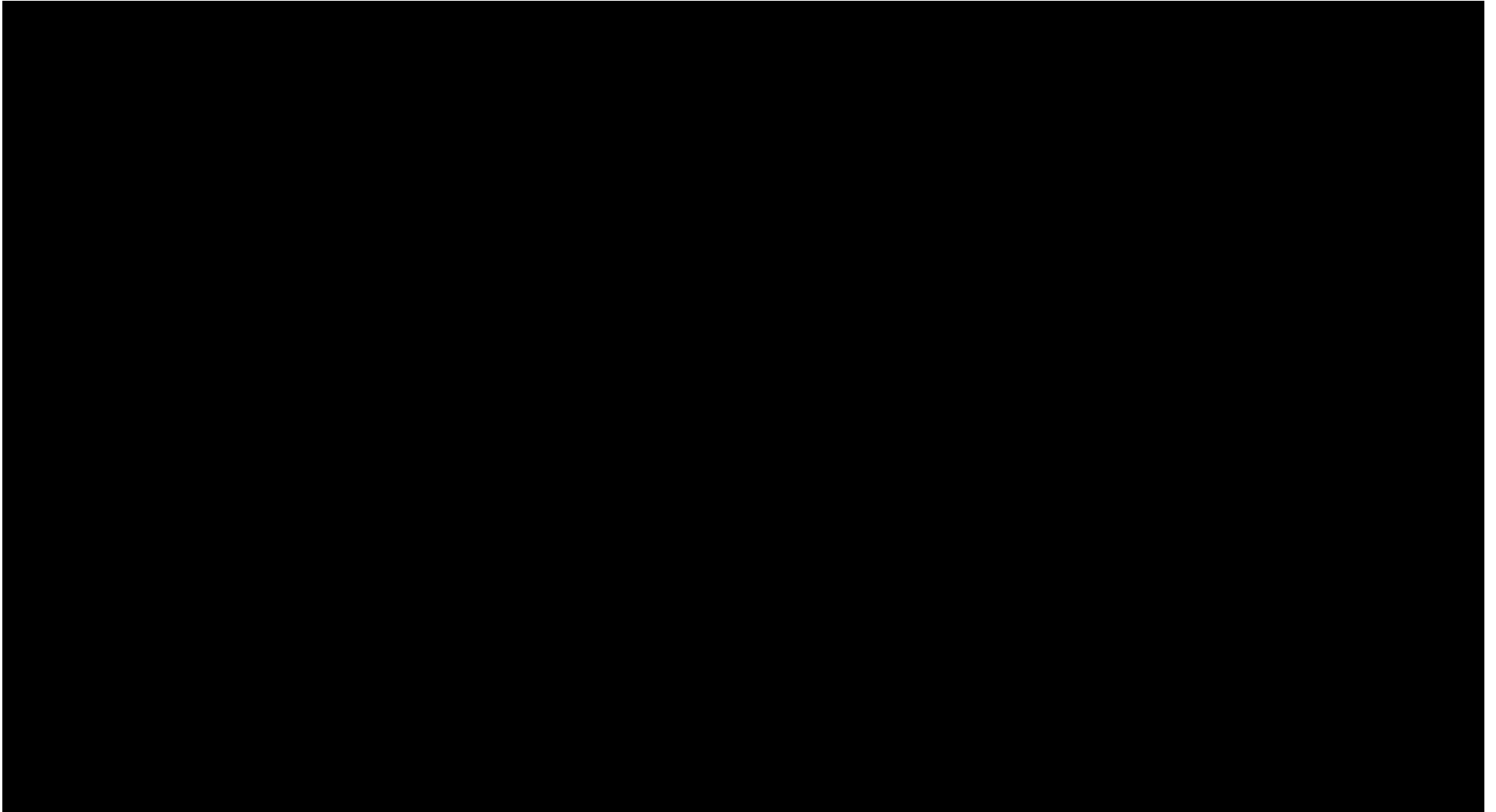




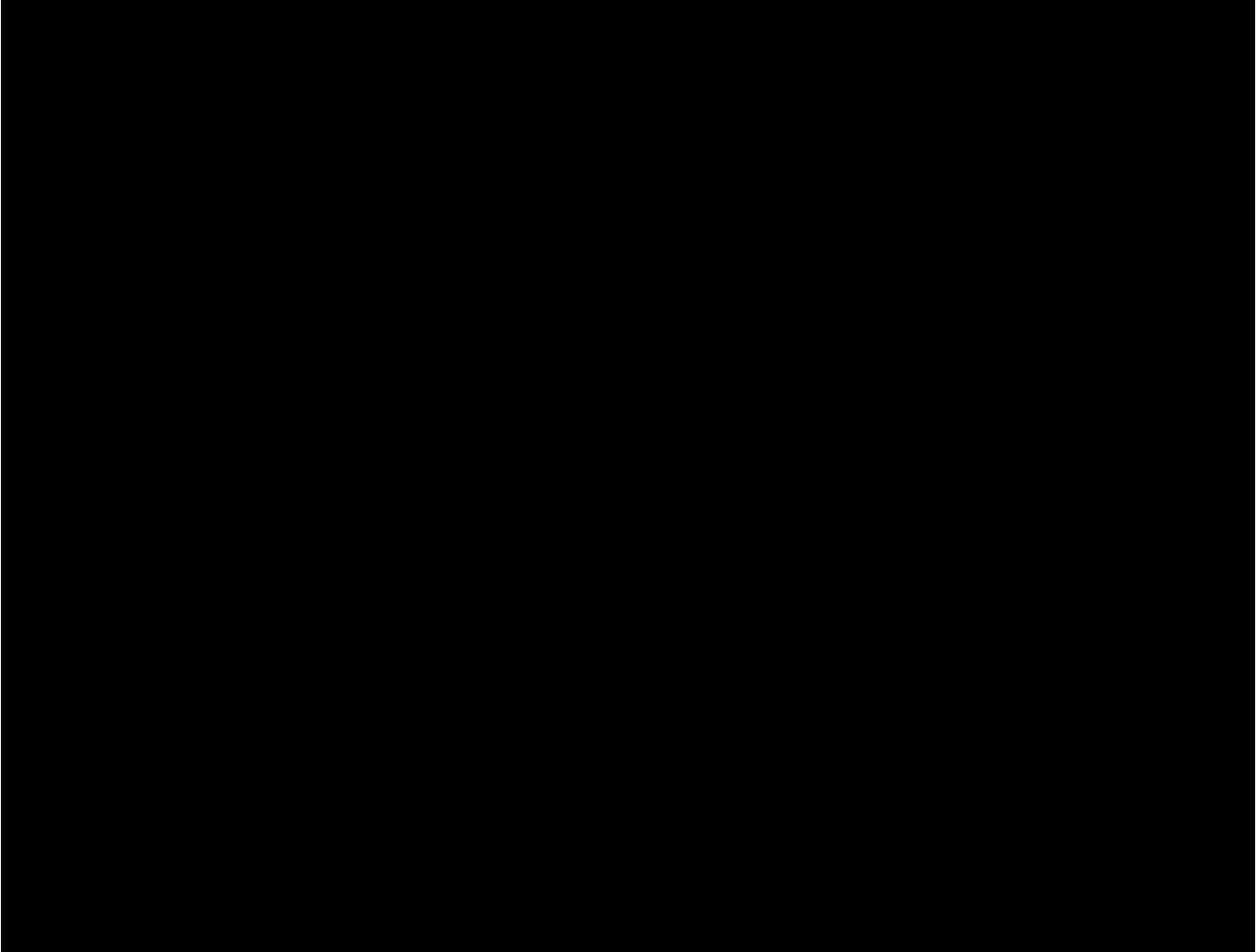
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# Exhibit 2

**RESULTS OF THE TOP-TO-BOTTOM  
REVIEW OF EXELON'S PROGRAM FOR CALCULATING  
COSTS UNDER PJM ENERGY OFFER-CAP COMMITMENTS  
AND SUMMARY OF ACTIONS TAKEN TO REMEDY ALL ISSUES**

**I. EXECUTIVE SUMMARY**

In April of 2012, Exelon Corporation ("Exelon") and Constellation Energy ("Constellation") (collectively, the "Companies") submitted a report (the "Initial Report") describing how, for the first two weeks after their March 12, 2012 merger, energy offers for certain Constellation units inadvertently were submitted to PJM at levels slightly higher than permitted under the market power mitigation commitment made by the Companies in connection with their merger. As explained in more detail in that report, the erroneous offers resulted from a problem with Constellation's legacy computer software program code (the "GenBid Error") that caused an overestimation of the costs of certain units at full load operating conditions. The Initial Report was provided to the Enforcement Staff of the Federal Energy Regulatory Commission ("FERC"), the Maryland Public Service Commission ("MPSC"), and the U.S. Department of Justice ("DOJ").

After reporting these errors in April, the Companies determined that it would be appropriate to conduct a top-to-bottom review of all of the energy cost calculations that they perform for their PJM generation units. This Report describes the results of that review. As detailed below, with the exception of a few minor issues, the cost calculations performed by the Companies correctly reflect the myriad elements that make up the cost-based offer caps for each of the 75 units that are subject to the mitigation commitments. The few errors that the Companies identified (the "Top-to-Bottom Errors") either had no impact whatsoever or a minor impact on the revenues received by the Companies from their units.

The Companies have paid or committed to pay \$406,426 to remedy the effects of both the GenBid Error and the Top-to-Bottom Errors.<sup>1</sup> This amount includes: (1) the return of excess Operating Reserve revenues received by the Companies' generation fleet from both categories of errors; and (2) amounts based on the initial estimates of the PJM Independent Market Monitor ("IMM") as to the effect of the GenBid Error on locational marginal prices ("LMP") paid to the Companies' generation fleet, as well as on the LMPs paid by wholesale buyers in Maryland from the GenBid error.

Subsequent to committing to make payments based on the IMM's initial estimates, the Companies requested that PJM undertake a redispatch analysis of the PJM system to determine more precisely the LMP effects from all of the issues identified. PJM now has completed its final calculations of the effects of the GenBid Error.

PJM also has calculated the LMP effect of one of the Top-to-Bottom Errors, which was only \$1,102. PJM has not calculated the effect of the one remaining Top-to-Bottom Error that could have an LMP effect. However, as shown in the letter attached as Exhibit C, PJM has estimated that this error could not have had more than a \$25,000 total LMP effect in PJM. Consequently, PJM requested that it not be asked to perform a redispatch for the remaining Top-to-Bottom Errors, "given the small effect of the [Top-to-Bottom Errors] and the significant time and resources that will be required for PJM to perform an LMP recalculation...."

In sum, the Companies' payments significantly exceed the total amount calculated by PJM:

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<sup>1</sup> Of the \$406,426, PJM has committed to provide \$255,046 to wholesale customers in PJM in the fourth quarter of this year, which will be reflected in the Schedule 9 administrative adder. The remaining \$151,380 will be paid to customers in Maryland as determined by the MPSC.

<b>Total amount paid or committed to be paid by the Companies</b>	\$406,426
<b>Total PJM calculation plus PJM estimate of maximum LMP effect of remaining Top-to-Bottom Errors</b>	\$220,898
<b>Amount by which the Companies' payments exceed PJM's calculations</b>	\$185,528

Thus, the amounts already returned to PJM and agreed to be provided to Maryland customers will exceed by \$185,000 the amount needed to both fully disgorge excess revenues received by the Companies and to fully compensate Maryland and PJM load for both the GenBid Error and the Top-to-Bottom Errors.

## **II. BACKGROUND**

### *1. The Companies' Cost-Based Offer Cap Commitments*

In connection with their merger, the Companies agreed to implement two different types of cost-based offer caps (the "Offer Cap Commitments") applicable to offers made into the PJM Energy Market. First, the Companies agreed to cap their offers into PJM for 75 units located in the 5004/5005 markets at cost-based levels on an interim basis pending divestiture of three generation stations. Second, in the Companies' settlement with the PJM Market Monitor (the "IMM"), the Companies agree to similar restrictions on offers submitted for all of their PJM peaking units for a 10-year period.

In each case, the Offer Cap Commitments obligate the Companies to submit cost-based offers capped at the maximum cost based price allowed under the version of the PJM "Amended and Restated Operating Agreement of PJM Interconnection, LLC," (the "PJM Operating Agreement"), Schedule 1, Section 6.4.2(a)ii and iii, available at [www.pjm.com](http://www.pjm.com), in effect at the time the offer is made. Currently, this limits offers to the variable cost of a unit, plus an adder, where variable cost is defined in PJM's Cost Development Task Force ("CDTF") rules, PJM Manual 15, and where the level of the adder for each unit is dependent on whether or not PJM

has classified the unit as a frequently mitigated unit ("FMU"). Normally, this means a 10% adder for non-FMU units, and a fixed percentage and/or a fixed \$/MWh adder for FMUs.

**2. *The GenBid Error and the Initial Report***

As described in more detail in the Initial Report, the GenBid error resulted from an error in Constellation's legacy software that caused offers for certain of the dispatchable generation units owned by Constellation to be incorrectly transmitted to PJM during the first two weeks after the merger. Upon discovery of the error, the Companies immediately took steps to uncover the source of the problem and correct the error.

The Companies' also worked with PJM to determine the effect of the errors on the Companies' revenues from its generation of energy during the time period of the errors. There were two different ways that the errors could affect the Companies' revenues. First, the errors could cause the Companies to be overpaid for Operating Reserves, which are make-whole payments to ensure that generators in PJM receive revenues equivalent to their offers. Second, the errors potentially could have caused an increase in the LMP of energy in particular hours, thereby increasing the energy revenues for all of the Companies' generation facilities whose energy price was affected by the increased LMP. At the time of the Initial Report, the Companies were still working with PJM to determine the amount of excess revenues in each category. The Companies committed that, after they reached agreement with PJM on the correct amounts, they would return the excess revenues to PJM.

**3. *Return of Excess Revenues Resulting From the GenBid Error***

Subsequent to the time of the Initial Report, the Companies and PJM calculated the amount of excess Operating Reserve revenues earned by the Companies as a result of the GenBid Error – \$88,000. The entire \$88,000 has been returned to PJM.



With respect to determining the amount of excess LMP revenues earned by the Companies' generation fleet caused by the GenBid Error, the Companies initially worked with the IMM to develop the calculation of the amount that should be returned. The IMM prepared an initial estimate of the excess revenues received by the Companies' generation facilities as a result of increased LMPs – \$141,403. It was understood at the time, however, that this initial analysis most likely would overstate the LMP effect of the GenBid Error because the IMM's analysis did not attempt to reflect the change in dispatch of units that would have resulted if the Bid Cap Commitments had not been exceeded.

Notwithstanding this potential overstatement of the LMP effects, the Companies agreed to return the full \$141,403 of potential excess revenues initially estimated by the IMM, and the entire \$141,403 has in fact been returned to PJM. At the same time, however, PJM agreed with the Companies that it would perform a full redispatch calculation. The results of PJM's calculation are described below.

Finally, the MPSC initiated a Show Cause Order to address the issues raised in the Initial Report. As part of that proceeding, the Companies agreed to provide \$151,380 to Maryland customers, which reflected an initial IMM estimate of the increased costs incurred by wholesale buyers in Maryland as a result of increases in the LMP resulting from the offers above the Offer Cap Commitments.<sup>2</sup> As was the case with the IMM's estimate of the excess revenues received by the Companies' generation fleet, this \$151,380 estimate likely overstated the Maryland LMP effects of the GenBid Error because the estimate did not account for generation redispatch. Again, PJM agreed to perform a more accurate calculation of the LMP rate effect taking changes in unit dispatch into account.

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<sup>2</sup> The MPSC has not yet determined how this \$151,380 will be provided to Maryland customers.

**4. *PJM's Subsequent Calculations of the LMP Effects of the GenBid Error***

As noted above, after the Companies made the commitment to return excess revenues based on the IMM's estimate of the LMP effects of the GenBid Error, the Companies asked PJM to run a redispatch of the PJM system to determine which units would have been dispatched if the Offer Cap Commitments had not been exceeded inadvertently. This calculation more accurately determines the effect of the GenBid Error on revenue received by the Companies. PJM agreed to perform the necessary redispatch calculations.

PJM recently completed its calculation. PJM's more accurate calculation shows that the GenBid error, instead of increasing the Companies' LMP revenues by \$141,403, actually *decreased* the Companies' generation LMP revenues by \$22,116. The reason for this is that, if instead of the higher offers submitted as a result of the GenBid Error, the correct lower offers had been submitted for the affected units, the Companies' offers would have been accepted more often and their units would have operated more often, generating more revenues than the Companies actually received.

The Companies also requested that PJM revisit the IMM's \$151,380 estimate of the LMP effect of the GenBid Error on Maryland customers. PJM now has completed this analysis. PJM's calculation shows that the excess payments by wholesale customers in the BGE, Pepco, and Allegheny Power Zones were \$21,950 – considerably less than the \$151,380 initially estimated by the IMM.

Finally, DOJ requested that the Companies provide a calculation of the effect of the GenBid Error on the amount paid by all wholesale buyers in PJM, and not just the wholesale buyers in Maryland. PJM has determined that the total, PJM-wide effect on wholesale buyers of the GenBid error, including for Maryland wholesale buyers, was \$81,096.

## **II. RESULTS OF TOP-TO-BOTTOM REVIEW**

### ***1. Scope of the Companies' Review***

After discovering the GenBid Error that was identified this past April, the Companies decided that it would be appropriate to review their cost data to make sure that it accurately reflects the costs associated with each of the 75 units involved. The Companies' top-to-bottom review therefore examined each element of the cost calculation for each of the 75 units. This included a review of the following cost elements for each unit:

1. Fuel data sources (including confirmations against fuel indices and fuel transportation costs)
2. Fuel heat quantities (BTU values)
3. Unit-commitment data (heat rates equations, variable O&M costs, performance-correction factors determination, and major-maintenance adders)
4. Emission Allowance costs per state and a cross reference to the location of the unit to make sure the Companies were including the appropriate allowance costs.

In addition to conducting their own review of the costs, the Companies provided input data on all the units to the IMM and requested that it review the data and the Companies' calculations for accuracy and for agreement with the PJM Tariff and PJM Manual 15 requirements.

The Companies also have provided all of its cost data to Potomac Economics, which is acting as the Independent Monitor of the Companies' compliance with the Offer Cap Commitments, as required by FERC in its order approving the merger. Potomac Economics has been retained to prepare quarterly reports required by FERC regarding the Companies' compliance. In its first report, Potomac Economics did not identify any errors other than those that the Companies have identified and reported herein.

Further, because the initial GenBid error identified by the Companies resulted from an error in the software used to communicate the cost-based offers to PJM, the Companies also took steps to verify that their software returned expected results from the input data. In order to accomplish this, the Companies manually prepared a spreadsheet to confirm that the software produced the correct results for all of the units using the same set of inputs.

**2. *New Procedures Adopted by the Companies***

As part of their top-to-bottom review, the Companies also adopted new procedures to assure compliance with the Offer-Cap Commitments. First, they developed detailed process documentation to assign clear accountabilities and to enable tracking of how costs and bids are calculated. This process includes a review by the Companies' risk organization to check the accuracy of the offers. Second, the Companies have reached agreement with the IMM to exchange information on a daily basis. This allows the IMM to check the actual inputs and verify the outputs for the Companies' offers.

**3. *Results of the Companies' Review***

For the most part, the Companies' review of the cost calculations for the 75 units covered by the Offer-Cap Commitments confirmed that the myriad cost elements for each of those units had been determined correctly and that the cost-based offers submitted for those units were calculated correctly. The review did identify a few minor issues, however, which are described in Exhibit A.

As detailed in Exhibit A, the minor Top-to-Bottom Errors either had no effect whatsoever, or had only a minimal effect on PJM LMPs or the Companies' revenues. In total, the errors resulted in the Companies receiving approximately \$26,000 in excess Operating Reserve payments. This Operating Reserve amount already has been returned to PJM.

Only two categories of Top-to-Bottom errors had any LMP effects.

(1) First, the incorrect use of a CO2 adder for the Notch Cliff Error (“Notch Cliff CO2 error”) affected PJM LMPs. However, the effect of this error on LMPs was less than \$1/MWh, and even then the LMPs were affected in only three hours. PJM has calculated that the total LMP effect of this error in PJM was minimal – only \$1,102.

(2) Second, there is one other small transportation cost correction issue that potentially could have affected real-time hourly LMPs. As described above and in the letter attached as Exhibit C, PJM has not calculated the LMP effect of this error and has asked, due to the resources needed to perform the analysis and the press of other important business, that the Companies refrain from requesting them to do so. However, in this letter, PJM estimated that the total LMP effect of these errors did not exceed \$25,000.

**III. THE COMPANIES HAVE PAID OR COMMITTED TO PAY AMOUNTS THAT SIGNIFICANTLY EXCEED THE EXPECTED TOTAL AMOUNT CALCULATED BY PJM**

As summarized in Exhibit B, the total combined effect of the GenBid Error and the Top-to-Bottom Errors calculated by PJM is a maximum potential of \$220,898. The Companies already have returned or agreed to return \$406,426. Consequently, the Companies have paid or agree to pay over \$185,000 more than the potential total amount of excess revenues and load effects resulting from the GenBid Error and the Top-to-Bottom Errors. While the Companies do not intend to request a reduction in the amounts that they have returned or agreed to return, the Companies also believe that those amounts fully compensate for all effects of the errors and that no more payments should be required.

**August 10, 2012**

**EXHIBIT A****RESULTS OF TOP-TO-BOTTOM REVIEW**

<b>Description of Error</b>	<b>Units Affected</b>	<b>Effect on Costs</b>	<b>Period Errors Affected Offers</b>	<b>Times When Erroneous Offers Affected LMP</b>	<b>Effect on Revenues Received by the Companies</b>
The transportation charge used to calculate the cost of fuel oil Philadelphia area oil-fired combustion turbine units (identified on Exhibit A) inadvertently included an incorrect conversion factor for converting costs specified in barrels to costs specified in gallons.	Chester 7,8, &9 Delaware 9,10,11, &12 Eddystone 10, 20, 30, &40 Falls 1,2, &3 Moser 1,2, &3 Richmond 91 & 92 Schuykill 10, &11	Increased cost of units from \$10 to \$13/MWh, depending on the unit	From the close of the merger through March 28, 2012	No effect on LMP since units were not dispatched by PJM	No effect on Companies' revenues
An incorrect index price for No. 6 Fuel Oil used for Wagner 1 and 4. Used No. 0.3% sulfur price instead of price for higher sulfur fuel oil used in those units	Wagner 1, 4	Increased cost of Wagner 1 by \$10/MWh and Wagner 4 by \$3/MWh	From the close of the merger through April 25, 2012	No effect on LMP since units were not dispatched by PJM	No effect on Companies' revenues

**EXHIBIT A****RESULTS OF TOP-TO-BOTTOM REVIEW**

<b>Description of Error</b>	<b>Units Affected</b>	<b>Effect on Costs</b>	<b>Period Errors Affected Offers</b>	<b>Times When Erroneous Offers Affected LMP</b>	<b>Effect on Revenues Received by the Companies</b>
An incorrect gas transport adder was used for units receiving gas via BGE natural gas distribution system. Used an \$0.884/dtherm adder instead of an \$0.617/dtherm adder	Wagner 1 Notch Cliff 1-8 Perryman 51	Increased cost of Wagner 1 by \$2.91/MWh; Increased the cost of Notch Cliff units between \$4.53 and \$4.61/MWh; Increased Perryman 51 by \$3.26/MWh	From the close of the merger through May 2, 2012	PJM has requested that it not be required to perform this calculation	In combination with next error, increased Operating Reserve payments by \$16,387. PJM estimates that, in combination with the next error, the total LMP effect was less than \$25,000.
An incorrect No. 2 Fuel Oil transport adder was used for various CT's. Used a 3.65 cents/gallon adder when a lower adder should have been used (3.25 cents/gallon for Perryman units, 2.51 cents/gallon for all others)	Riverside 7, 8 Crane CT Wagner CT Philadelphia Road 1-4 Perryman 1-4	Increased cost of Perryman CTs by less than \$.50mwh and the others by less than \$1.50/MWh	From the close of the merger through May 2, 2012, additional adjustment to Perryman CTs went into effect on May 8, 2012	PJM has requested that it not be required to perform this calculation	In combination with prior error, increased Operating Reserve payments by \$16,387. PJM estimates that, in combination with the prior error, the total LMP effect was less than \$25,000.

**EXHIBIT A****RESULTS OF TOP-TO-BOTTOM REVIEW**

<b>Description of Error</b>	<b>Units Affected</b>	<b>Effect on Costs</b>	<b>Period Errors Affected Offers</b>	<b>Times When Erroneous Offers Affected LMP</b>	<b>Effect on Revenues Received by the Companies</b>
An incorrect kerosene transport adder was used for Riverside 6. Used a 4.65 cents/gallon adder when a 3.25 cents per gallon should have been used (2.51 adder was used from May 2 through May 7, 2012)	Riverside 6	Increased cost by \$1.53/MWh	From the close of the merger through May 2, 2012, with an additional adjustment on May 8, 2012	No effect on LMP since unit was not dispatched by PJM	No effect on Companies' revenues
An incorrect No. 6 Fuel Oil transport adder was used for Wagner 1 and 4. Used \$2.201/barrel for Wagner 1 and \$2.951/barrel for Wagner 4 when \$1.582/barrel should have been used for both.	Wagner 1, 4	Increased cost of Wagner 1 by \$1.06/MWh and Wagner 4 by \$2.50/MWh	From the close of the merger through May 4, 2012	No effect on LMP since units were not dispatched on oil by PJM.	No effect on Companies' revenues
Incorrectly included a CO2 allowance adder for Handsome Lake	Handsome Lake	Increased cost of Handsome Lake by \$0.18/MWh	From the close of the merger through May 30, 2012	No effect on LMP per PJM	No effect on Companies' revenues



**EXHIBIT A****RESULTS OF TOP-TO-BOTTOM REVIEW**

<b>Description of Error</b>	<b>Units Affected</b>	<b>Effect on Costs</b>	<b>Period Errors Affected Offers</b>	<b>Times When Erroneous Offers Affected LMP</b>	<b>Effect on Revenues Received by the Companies</b>
Incorrectly included a CO2 allowance adder for CTs under 25 MW in Maryland	Notch Cliff 1-8 Philadelphia Road 1 – 4 Riverside 7 and 8 Wagner CT Crane CT	Increased cost by \$0.97 to \$1.72/MWh per CT depending on unit	From the close of the merger through June 8, 2012	March 19, 2012 at 11 am (\$0.09/MWh increase in LMP for Notch Cliff 3) March 20, 2012 at 7 am (\$0.65/MWh increase in LMP for Notch Cliff 2) March 20, 2012 at 7 am (\$0.66/MWh increase in LMP for Notch Cliff 8)	Increased Operating Reserve revenues by \$9,256. Increased the Companies' generation fleet LMP revenues by \$57. Increased PJM LMP rates by a total of \$1,102.
Incorrectly included a SO2 allowance adder for Pennsylvania CTs under 25 MW	Chester 7, 8, and 9 Delaware 9, 10, 11, and 12 Eddystone 10, 20, 30 and 40 Southward 3, 4, 5 and 6 Falls 1, 2, and 3 Moser 1, 2, and 3	No measurable increase in costs (worst case \$0.01/MWh)	From the close of the merger through July 20, 2012	No assumed effect on LMP	No effect on Companies' revenues

**SUMMARY OF PAYMENTS TO CORRECT ERRORS IN COST-BASED OFFERS (\$)**

<b>Error in Calculation of Cost-Based Offer</b>	<b>Operating Reserve Over-Payment (A)</b>	<b>Initial LMP Fleet Effect Calculation (B)</b>	<b>Final PJM LMP Fleet Effect Calculation (C)</b>	<b>Initial LMP Rate Effect Calculation (D)</b>	<b>Final PJM-wide LMP Rate Effect Calculation (E)</b>	<b>Total Financial Effect Under Final Calculations A+C+E=(F)</b>	<b>Amount Paid or Committed to be Paid to PJM and PJM customers A+B+D=(G)</b>	<b>Difference between Total Financial Effect and Amount Paid or Committed to be Paid F-G=(H)</b>
Incorrect Index Price for #6 Oil f	NA	NA	NA	NA	NA	NA	NA	NA
Incorrect fuel transportation adders	16,387	NA	See column (E)	NA	<25,000 <sup>1</sup>	16,387 + <25,000	16,387	<25,000
Incorrect CO2 allowance adder for Handsome Lake	NA	NA	NA	NA	NA	NA	NA	NA
Incorrect CO2 allowance adder for CTs under 25 MW in Maryland	9,256	Not performed	57 <sup>2</sup>	Not performed	1,102	10,415	9,256	1,159
Incorrect SO2 allowance adder for Pennsylvania CTs under 25 MW	NA	NA	NA	NA	NA	NA	NA	NA
GenBid Error	88,000	141,403	(22,116)	151,380 <sup>3</sup>	81,096	169,096*	380,783	(211,687)
<b>Difference Between Total Financial Effect Under Final Calculations and Amount Paid or Committed to be Paid to PJM and PJM Customers</b>						<220,898	406,426	>185,528*

<sup>1</sup> The <25,000 is the combined effect of the fuel transportation adder errors on LMP paid to the Companies' fleet and LMP paid by all wholesale buyers in PJM.

<sup>2</sup> This \$57 includes the real-time effect on the Companies' fleet from both the GenBid Error and the CO2 allowance adder issue.

<sup>3</sup> This amount reflects the PJM IMM estimate of the LMP rate effect in Maryland only and the amount that Exelon has agreed to provide to customers in Maryland pursuant to a process to be determined by the Maryland Public Service Commission.

\* Does not reflect the (\$22,116) that PJM determined the combined Exelon/Constellation fleet under-collected in LMP revenue as a result of the GenBid Error.



August 9, 2012

Steve Wofford  
Vice President – Portfolio Operations  
Constellation  
100 Constellation Way  
Suite 500C  
Baltimore, MD 21202

Dear Mr. Wofford,

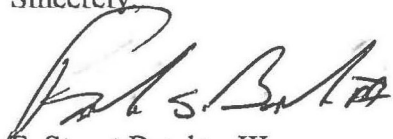
This letter confirms our conversation in which we discussed the issues regarding Exelon and Constellation's compliance with its interim bidding requirements in PJM. You indicated and shared with me a few corrections to the cost inputs for the development of certain of the Companies' cost based offers for its generation units in PJM. As you have described them to me, these cost input issues relate to the fuel transportation adders used for developing the cost based offers for units receiving gas via the BGE gas distribution system and for various combustion turbines using No. 2 fuel oil.

We discussed the possibility of recalculating locational marginal prices (LMP) at the Exelon generation and PJM load buses based on revised generation offers resulting from correction of the calculation issues noted above. To perform this work would require a substantial time commitment on the part of PJM and we cannot commit to providing you the results of that work any sooner than 4-6 weeks from today. PJM is in the midst of significant system upgrades to accommodate FERC-ordered market enhancements including shortage pricing and performance-based regulation and we cannot dedicate resources to this issue immediately.

You also asked me whether I thought that the effect on the revenues received by the Companies' generation fleet and on LMP paid by load in PJM resulting from the calculation issues would be less than \$25,000. In light of (a) the small number of hours in which the Companies' units affected by the cost calculation issues were marginal and (b) that the issues affected real-time LMP only, it is safe to assume that the effects on your fleet and on PJM load will be less than \$25,000. Therefore, given the small effect of your cost calculation issues and the significant

time and resources that will be required for PJM to perform an LMP recalculation, I would submit that the larger PJM membership would be better served in avoiding the cost of resources incurred to engage in what we fully expect would be a time intensive recalculation exercise resulting in relatively small refund amounts. Please feel free to share this opinion as necessary and advise us as to next steps.

Sincerely,

A handwritten signature in black ink, appearing to read "F. Stuart Bresler, III". The signature is written in a cursive style with a large initial "F" and "B".

F. Stuart Bresler, III

cc: Andy Ott  
Vince Duane