SPP Southwest Power Pool

HELPING OUR MEMBERS WORK TOGETHER TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

July 17, 2014

VIA ELECTRONIC FILING

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: *Southwest Power Pool, Inc.*, Docket No. ER12-1179-___
SPP Integrated Marketplace Compliance Filing

Dear Secretary Bose:

Pursuant to Section 206 of the Federal Power Act ("FPA"), 16 U.S.C. § 824e, and the order issued on June 19, 2014 in this proceeding,[1] Southwest Power Pool, Inc. ("SPP") submits revisions to its Open Access Transmission Tariff ("Tariff")[2] in compliance with the June 2014 Compliance Order. SPP requests an effective date of March 1, 2014 for the Tariff revisions submitted with this filing consistent with the June 2014 Compliance Order.

I. BACKGROUND

On February 26, 2014, SPP submitted Tariff revisions[3] to comply with the directives issued by the Commission in its order issued on January 29, 2014.[4] SPP requested an effective date of March 1, 2014 (the date the Integrated Marketplace was implemented); and the February 2014 Compliance Filing addressed, amongst other things, (1) day-ahead must offer requirements; (2) Variable Energy Resources ("VERs"); (3) manual commitments; (4) marginal losses; (5) market-based congestion management; (6) Bilateral Settlement Schedules; and (7) market

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[1] *Sw. Power Pool, Inc.*, 147 FERC ¶ 61,212 (2014) ("June 2014 Compliance Order").

[2] Southwest Power Pool, Inc., FERC Electric Tariff, Sixth Revised Volume No. 1.

[3] SPP Integrated Marketplace Compliance Filing of Southwest Power Pool, Inc., Docket No. ER12-1179-018 (Feb. 26, 2014) ("February 2014 Compliance Filing").

[4] *Sw. Power Pool, Inc.*, 146 FERC ¶ 61,050 (2014) ("January 2014 Compliance Order").

mitigation and monitoring.[5] The Commission conditionally accepted the February 2014 Compliance Filing in its June 2014 Compliance Order, subject to an additional compliance filing. In the June 2014 Compliance Order, the Commission specifically directed SPP to make a compliance filing within 30 days to modify the Tariff as follows:

- To revise Section 5.2.2(4) of Attachment AE to retain "at the request of a local transmission operator" with regard to the Transmission Provider's issue of instructions to a resource to address a Local Reliability Issue.[6]
- To delete the termination provision in Section 8.2 of Attachment AE.[7]
- To update references to the now non-existent Section 3.1(4) of Attachment AF, that should be referenced as Section 3.1(3) of Attachment AF.[8]
- To remove the word "additional" from Sections 3.2, 3.3, 3.4, and 3.6 of Attachment AF.[9]
- To modify Section 3.5 of Attachment AF to replace proposed language with language provided by the Commission to ensure consistent confidential treatment of opportunity cost data that may be supplied to SPP's Market Monitor.[10]
- To modify Section 4.6.1a(3) of Attachment AG to read as follows: "a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic.[11]
- To provide a detailed explanation demonstrating how the inclusion of "in the Real-Time Balancing Market" in the sentence added to Section 3.2D in the February 2014 Compliance Filing complies with the January 2014 Compliance Order.[12]

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[5] Unless otherwise defined herein, capitalized terms shall have to definitions provided in the Tariff.

[6] *See* June 2014 Compliance Order at P 14.

[7] *Id*. at P 18.

[8] *Id*. at P 22.

[9] *Id*. at P 28.

[10] *Id*. at P 29.

[11] *Id*. at P 33.

[12] *See* June 2014 Compliance Order at P 36.

- To revise the sentence added to Section 3.2D in the February 2014 Compliance Filing to change the wording "monitoring for" to "monitoring of."[13]

II. DESCRIPTION OF COMPLIANCE FILING

The Tariff revisions and explanations submitted in this filing are designed to satisfy all compliance directives of the June 2014 Compliance Order as described above. A more detailed description of these revisions is provided below, which is organized to track the discussion in the June 2014 Compliance Order.

A. Manual Commitment

In the February 2014 Compliance Filing, SPP proposed to revise the manual commitment provisions in Attachment AE to satisfy the Commission's directives in the January 2014 Compliance Order.[14] As SPP explained, SPP interpreted the Commission's directives to necessitate a revision to Section 5.2.2(4) to remove the phrase "at the request of a local transmission operator" to address local reliability issues, as that section will no longer be limited to those instances.[15] The Commission determined that this revision was not required by the June 2014 Compliance Order, and therefore, required SPP to make a compliance filing to either retain 'at the request of a local transmission operator" or to explain why the deletion of language is necessary.[16]

In compliance, SPP requests to retain the phrase "at the request of a local transmission operator" in Section 5.2.2(4) which complies with the Commission's directive.

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[13] *Id.* at P 37.

[14] *Id.* at P 11.

[15] *Id.*

[16] *Id.* at PP 12, 14.

B. Bilateral Settlement Schedules

In the February 2014 Compliance Filing, SPP proposed revisions to Section 8.2 of Attachment AE to provide that Bilateral Settlement Schedules will be administered and terminated pursuant to Attachment X (Credit Policy) of the Tariff, as noted in the June 2014 Compliance Order.[17] The Commission found that Section 8.2 as drafted did not comply with the Commission's directives to remove terms which allows SPP to unilaterally terminate a Bilateral Settlement Schedule.[18] The Commission requires SPP to delete the termination provision in Section 8.2 of Attachment AE.[19]

In compliance, SPP submits Tariff sheets to delete the termination provision of Section 8.2 of Attachment AE.

C. Monitoring and Market Power Mitigation

In the February 2014 Compliance Filing, SPP proposed to modify Section 3.1(3) of Attachment AF to add references to certain sections (4.5.2, 4.5.3, and 5.1.2) of Attachment AE.[20] SPP also proposed to remove references to "Day-Ahead or Intra-day RUC" as no longer appropriate.[21] Further, SPP deleted references to specific sections of Attachment AE that were deleted and therefore are now obsolete.[22] The Commission found that SPP had complied with its requirements.[23] However, the Commission found that references that be to Section 3.1(3) in Attachment AF of the Tariff were not updated and refer to the non-existent Section 3.1(4).[24] Therefore, the Commission required SPP to change any Tariff reference from Section 3.1(4) to the correct 3.1(3).[25]

In compliance, SPP is filing Tariff revisions to replace 3.1(4) with 3.1(3) as appropriate.

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[17] *Id.* at P 16.

[18] *See* June 2014 Compliance Order at P 18.

[19] *Id.*

[20] *See* February 2014 Compliance Filing at 15-16.

[21] *Id.*

[22] *Id.*

[23] *See* June 2014 Compliance Order at P 21.

[24] *Id.* at P 22.

[25] *Id.*

D. Mitigated Offer Development and Resolution of Conflicting Mitigated Offers

In the June 2014 Compliance Order, the Commission found SPP had complied with the Commission's directives with respect to a Market Participant's obligation to provide the Market Monitor with the explanation of Market Participant's policy for fuel costs and an indication whether fuel purchases are subject to fixed contract pricing and/or spot pricing with respective prices identified.[26] The Commission also accepted SPP's proposals to address fuel costs by limiting fuel transportation and handlings costs to short-run marginal costs, exclusive of fixed costs.[27] Further, the Commission found that SPP had provided the required explanatory common factors to be included in opportunity costs.[28] Notwithstanding, the Commission determined that the inclusion of the word "additional" in the phrase "additional opportunity cost data" may be confusing and are unnecessary and unclear without proper context; and therefore, required SPP to remove the word "additional" from the phrase in specific sections of Attachment AF.[29]

In compliance, SPP submits Tariff sheets which remove the word "additional" from Sections 3.2, 3.3, 3.4, and 3.6 of Attachment AF, as required by the Commission.

Additionally, the Commission required SPP to modify Section 3.5 of Attachment AF to include a specific reference to opportunity cost data for use in developing mitigated offers that must be considered confidential information.[30] To ensure proper confidentiality, the Commission provided the statement which SPP must include in Section 3.5 of Attachment AF.[31] In compliance, SPP submits the following sentence to be included in Section 3.5:

> "The Market Monitor shall keep such data confidential, and all cost data submitted under this section 3.5, including any opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff."

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26 *Id.* at P 27.

27 *Id.*

28 *Id.*

29 *See* June 2014 Compliance Order at P 28.

30 *Id.* at P 29.

31 *Id.*

E. Uneconomic Production

In the February 2014 Compliance Filing, SPP proposed to remove a reference to Section 3.6 of Attachment AF from Section 4.6.1a(3) of Attachment AG.[32] In addition, SPP proposed other modifications to Section 4.6.1a(3) that would replace the current language with all new language to provide that uneconomic production will be indicated when time-based or other offer parameters contribute to congestion or price separation between reserve zones. The June 2014 Compliance Order accepted the removal of reference to Section 3.6 of Attachment AF but found that SPP had not supported the wholesale replacement of Section 4.6.1a(3).[33] Accordingly, the June 2014 Compliance Order required SPP to modify Section 4.6.1a(3) of Attachment AG to read as follows:

> "a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic."

In compliance, SPP submits a modified Section 4.6.1a(3) of Attachment AG of the Tariff to read consistent with the Commission's requirements.

F. Variable Energy Resources

In the January 2014 Compliance Order, the Commission required SPP to submit Tariff revisions limiting the applicability of Section 3.2D of Attachment AF to dispatchable VERs only, rather than general applicability to all VERs. To satisfy that requirement, SPP proposed to modify Section 3.2D to include language that specified mitigation will not apply to Non-Dispatchable VERs in the Real-Time Balancing Market and monitoring for Energy Offers for Non-Dispatchable VERs will apply.[34]

In the June 2014 Compliance Order, the Commission conditionally approved SPP's revisions to Section 3.2D of Attachment AF; however, the Commission found that the reference to "Real-Time Balancing Market" within the sentence would functionally maintain mitigation measures for Non-Dispatchable VERs in the Day-Ahead Market. For clarity, the Commission required a modification of the phrase "monitoring for" to be replaced with "monitoring of" in the sentence added by the

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32 *See* February 2014 Compliance Filing at 20.

33 *See* June 2014 Compliance Order at P 33. The Commission noted that SPP's proposed substituted language merely replicates the introductory language for Section 4.6.1.

34 *See* February 2014 Compliance Filing at 21.

February 2014 Compliance Filing to Section 3.2D of Attachment AF.[35] Further, the Commission required SPP to either provide a detailed explanation supporting the inclusion of "Real-Time Balancing Market" in Section 3.2D as noted above, or remove the phrase completely from the sentence.[36]

In compliance with paragraph 37 of the June 2014 Compliance Order, SPP changes the wording in Section 3.2D of Attachment AF to state "monitoring of" consistent with the Commission's directives.

In compliance with paragraph 36 of the June 2014 Compliance Order, SPP provides the following justification and explanation regarding the reasonableness of including the phrase "Real-Time Balancing Market" in Section 3.2D. Subjecting a Non-Dispatchable VER to mitigation in the Day-Ahead Market is just and reasonable because the Non-Dispatchable VER submits offers and is eligible for economic dispatch in the Day-Ahead Market based on such submitted offers. Hence the impact of offers from a Non-Dispatchable VER is no different in the Day-Ahead Market than that of a conventional generator that uses fossil fuels.

This is not true of the Real-Time Balancing Market where the Non-Dispatchable VER is a price-taker, and the Non-Dispatchable VER is not required to follow an economic dispatch in real-time; and therefore its dispatch instruction is based on its last observed output, not the economics of its submitted offers. Given that the Non-Dispatchable VER's submitted offers impact the economic dispatch in the Day-Ahead Market and do not impact the economic dispatch in the Real-Time Balancing Market, the Non-Dispatchable VER should be subject to mitigation measures in the Day-Ahead Market and is not subject to mitigation measures in the Real-Time Balancing Market.

SPP wishes to clarify its earlier testimony from the compliance filing submitted on November 11, 2013. Catherine Tyler Mooney, PhD, Lead SPP Market Monitor, provided the following testimony: "[a Non-Dispatchable VER] cannot set prices, cannot economically withhold, and cannot have their Offers mitigated, because they are always price takers in the market. Thus, [Non-Dispatchable VERs] will not be captured by the mitigation and/or monitoring processes for economic withholding."[37] SPP would clarify that a Non-Dispatchable VER is dispatchable in

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[35] *See* June 2014 Compliance Order at P 37.

[36] *Id.* at P 36.

[37] *See* SPP Integrated Marketplace Compliance Filing of Southwest Power Pool, Inc., Docket No. ER12-1179-012 (Nov. 11, 2013) at Exhibit No. SPP-13, Prepared Testimony in Support of Compliance Filing of Catherine Tyler Mooney, Ph.D, at page 17, lines 23-24 and page 18, lines 1-2.

the Day-Ahead Market; and thus the quoted testimony above refers to a Non-Dispatchable VER in the Real-Time Balancing Market, and not the Day-Ahead Market.

To summarize, a Non-Dispatchable VER submits offers into the Day-Ahead Market and is therefore treated no differently than dispatchable resources, including mitigation. Conversely, as a submitted offer by a Non-Dispatchable VER into the Real-Time Balancing Market has no impact on the economic dispatch or prices, subjecting the Resource to mitigation will have no impact on the economic dispatch or prices, and hence the mitigation of the Non-Dispatchable VER is not necessary. Therefore, to the extent the inclusion of the term "Real-Time Balancing Market" maintains mitigation for a Non-Dispatchable VER in the Day-Ahead Market, such mitigation is the correct approach. To that end, maintaining mitigation for Non-Dispatchable VERs in the Day-Ahead Market is just and reasonable for the reasons stated above; and SPP respectfully requests the Commission approve the language filed in the February 2014 Compliance Filing that specifies mitigation will not apply to Non-Dispatchable VERs in the Real-Time Balancing Market as compliant with the January 2014 Compliance Order.

III. EFFECTIVE DATE

Consistent with the June 2014 Compliance Order, SPP requests that the Commission accept the revisions proposed herein to become effective March 1, 2014.

IV. CONCLUSION

For all of the foregoing reasons, SPP respectfully requests that the Commission accept the revisions filed herein, effective March 1, 2014.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Little Rock, Arkansas, this 17th day of July, 2014.

/s/ Matthew Harward
Matthew Harward

5.2.2 Day-Ahead Reliability Unit Commitment Execution

The Transmission Provider will perform a capacity adequacy analysis for the upcoming Operating Day using the SCUC algorithm with the objective of committing Resources to meet the Transmission Provider load forecast, Export Interchange Transactions, Head-room requirements, Floor-room requirements, and Operating Reserve requirements less Import Interchange Transactions over the Operating Day such that commitment costs are minimized while adhering to Transmission System security constraints and the Resource operating parameter constraints submitted as part of the RTBM Offers.

(1) Commitment costs used in the SCUC are defined as Start-Up Offer, No-Load Offer and incremental cost to operate at minimum output as defined in the submitted Energy Offer Curve.

(2) The SCUC algorithm will initially consider commitment of Resources not specified for reliability only use as described in Section 4.1(10)(c) of this Attachment AE, up to the Resources' Maximum Economic Capacity Operating Limit or Maximum Regulation Capacity Operating Limit if selected for Regulation-Up *and/or Regulation-Down*, and down to the Resources' Minimum Economic Capacity Operating Limit or Minimum Regulation Capacity Operating Limit if selected for Regulation-Down *and/or Regulation-Up*.

  (a) If this capacity plus Import Interchange Transactions is not sufficient on a system-wide basis to meet the Transmission Provider load forecast, Export Interchange Transactions, Head-room requirements, and Operating Reserve requirements, the SCUC algorithm will, in priority order: (1) Curtail non-firm fixed Export Interchange Transaction Bids until the capacity shortage is eliminated; and (2) Incorporate capacity up to Resources' Maximum Emergency Capacity Operating Limits and/or commit Resources designated as reliability only use, as described in Section 4.1(10)(c) of this Attachment AE, on an economic basis until the capacity shortage is eliminated while attempting to maintain the Regulation-Up requirement.

(b) If there is a capacity surplus on a system-wide basis calculated as the sum of self-committed capacity at minimum output, fixed Import Interchange Transactions, Floor-room requirements, and the Regulation-Down requirements that is in excess of the sum of the Transmission Provider load forecast and fixed Export Interchange Transactions, the SCUC algorithm will, in priority order: (1) curtail non-firm fixed Import Interchange Transaction Offers until the capacity surplus is eliminated; (2) incorporate capacity down to Resources' Minimum Emergency Capacity Operating Limits until the capacity surplus is eliminated while attempting to maintain the Regulation-Down requirement; (3) de-commit Resources that were committed by the Transmission Provider in the Day-Ahead Market that were not self-committed until the capacity surplus is eliminated; and (4) de-commit self-committed Resources until the capacity surplus is eliminated.

(3) To the extent that a particular security constraint impacting only the Transmission System cannot be directly addressed within the SCUC algorithm and is not a Local Reliability Issue, the Transmission Provider may manually commit Resources and/or decommit Resources, including self-committed Resources to alleviate such a Transmission System security constraint in accordance with its authority as Reliability Coordinator. Such manual commitments shall be selected by the Transmission Provider in a non-discriminatory manner, which will be verified by the Market Monitor through the process described under Section 6.1.2.1 of this Attachment AE. Additionally, such manual commitments shall be selected by the Transmission Provider to ensure that commitment costs are minimized while adhering to Transmission System security constraints and the Resource operating parameter constraints submitted as part of the RTBM Offers. The recovery of the compensation paid by the Transmission Provider for such committed Resources under Section 8.6.5 of this Attachment AE shall be collected by the Transmission Provider regionally as described under Section 8.6.7(A) of this Attachment AE.

(4) A Local Reliability Issue may arise during the Day-Ahead Reliability Unit Commitment process. Such Local Reliability Issues may require out of merit commitment, decommitment, or dispatch instructions to be issued to one or more Resources to resolve the reliability issue. In such cases, the Transmission Provider shall issue or the local transmission operator shall request the Transmission Provider to issue such instructions and any commitment by the Transmission Provider shall be selected by the Transmission Provider in a non-discriminatory manner, which will be verified by the Market Monitor through the process described under Section 6.1.2.1 of this Attachment AE. To the extent that the Transmission Provider, at the request of a local transmission operator, issues instructions to a Resource to address a Local Reliability Issue, such Resource shall be eligible for compensation in the same manner as any other Resource. The recovery of the compensation paid by the Transmission Provider for such committed Resources under Section 8.6.5 of this Attachment AE shall be collected by the Transmission Provider locally as described under Section 8.6.7(B) of this Attachment AE.

(5) The Transmission Provider, local transmission operator, and Resource owners shall develop operating guides to be applied to manual commitments made by the Transmission Provider, including such commitments made at the request of the local transmission operator to relieve known and recurring Local Reliability Issues in the Day-Ahead RUC. Such Resources will be compensated in the same manner as any other Resource. The recovery of such compensation paid by the Transmission Provider for such committed Resources under Section 8.6.5 of this Attachment AE shall be collected by the Transmission Provider locally as described under Section 8.6.7(B) of this Attachment AE.

8.2 Bilateral Settlement Schedules and GFA Carve Outs

Market Participants may create Bilateral Settlement Schedules for Energy and Operating Reserve obligations by registering and confirming the parameters of the agreement between buyer and seller as described in the Market Protocols. Both the buyer and seller must confirm the Bilateral Settlement Schedule except when the Bilateral Settlement Schedule is associated with an existing bilateral agreement under Section 8.2.1 of this Attachment AE. Either the buyer or seller may terminate the Bilateral Settlement Schedule at any time except when the Bilateral Settlement Schedule is associated with an existing bilateral agreement under Section 8.2.1 of this Attachment AE. Market Participants may submit Bilateral Settlement Schedule quantities for Energy and Operating Reserve obligation for use in the Day-Ahead Market and may submit Bilateral Settlement Schedule quantities for Energy for use in the Real-Time Balancing Market up to four (4) days following the applicable Operating Day for the initial settlement. New submittals and revisions to previously submitted values may be submitted up to forty-four (44) days following the applicable Operating Day to be included in the final settlement. Submittals not confirmed by both parties will not be included in any settlement execution.

Transactions related to Bilateral Settlement Schedules for Energy must specify the Settlement Location, the MW amount, the buyer, the seller and which market it applies to (Day-Ahead Market or RTBM), and must be for the physical transfer of Energy, with title of the energy transferring from the seller to the buyer at the Settlement Location specified for the transaction. Market Participants that submit Bilateral Settlement Schedules for Energy shall use reasonable efforts to limit the megawatt hours of such transactions to amounts reflecting the expected load and other physical delivery obligations of the buyer under the bilateral contract. The seller receives an increase in load obligation equal to the specified MW amount and the buyer receives a reduction in load obligation equal to the specified MW amount (the equivalent of a Resource settlement) at the specified Settlement Location.

Transactions related to Bilateral Settlement Schedules for Operating Reserve obligation must specify the buyer, the seller, the Operating Reserve product, the MW obligation transfer and the Reserve Zone within which the obligation transfer applies and must be for the physical transfer of energy associated with the Operating Reserve product, with title of the Operating Reserve product transferring from the seller to the buyer at the Reserve Zone specified for the transaction. The seller receives an increase in Operating Reserve obligation equal to the specified MW and the buyer receives a corresponding decrease in Operating Reserve obligation within the specified Reserve Zone.

8.2.1 Default Procedures for Pre-Existing Bilateral Contracts Transitioning to Integrated Marketplace

The procedures established under this Section 8.2.1 of Attachment AE shall apply to bilateral contracts entered into prior to the start of the Integrated Marketplace, where the buyer and seller have not agreed to the terms in the Bilateral Settlement Schedules corresponding to such pre-existing bilateral contracts:

(1) Upon request of the buyer, the Transmission Provider shall review and confirm that a particular bilateral contract exists between the buyer and seller. The Transmission Provider shall schedule a meeting between a designated senior representative of the buyer and seller within 30 days of such a request. The Transmission Provider shall conduct these discussions in accordance with Section 12 of the Tariff. Following confirmation, the buyer may register and confirm a Bilateral Settlement Schedule representing the parameters of the agreement. The Transmission Provider shall confirm that the buyer has submitted Bilateral Settlement Schedule parameters that are consistent with those specified in the bilateral contract;

(2) Subsequent submission by either the buyer or the seller of Bilateral Settlement Schedules for Energy and/or Operating Reserve associated with the registered Bilateral Settlement Schedule in either the Day-Ahead Market and/or RTBM must be consistent with the quantities specified in the bilateral contract. Only the buyer is required to confirm;

(3) Only the buyer may terminate the Bilateral Settlement Schedule;

(4) The Settlement Location for Bilateral Settlement Schedules for Energy shall be the source Settlement Location of the associated transmission service reservation as described under Section 7.1.1(1)(a) of this Attachment AE, as applicable;

(5) The Transmission Provider shall not be a party to Bilateral Settlement Schedules and nothing in this Section 8.2.1 of Attachment AE shall impose on the Transmission Provider any obligation regarding the settlement of financial rights and obligations between the parties to Bilateral Settlement Schedules; and

(6) Nothing in this Section 8.2.1 of Attachment AE shall alter the parties' rights and obligations under preexisting bilateral contracts, limit the right of either party to seek enforcement of such rights and obligations, and/or limit a party's right to obtain appropriate relief, pursuant to Section 206 of the FPA or as otherwise in accordance with the law.

8.2.2 GFA Carve Out

A Market Participant receiving GFA Carve Out shall not be charged for the cost of congestion and cost of marginal losses in the Day-Ahead Market for the amount of actual energy (MWh) transacted as specified in the GFA Carve Out Schedule.

(a) GFA Carve Out is only available to the extent that the Resources are offered into the Day-Ahead Market using a commit status as described in Section 4.1(10) (a) or (b) of this Attachment AE. To the extent the source is external, an Import Interchange Transaction must be submitted in the Day-Ahead Market with sufficient capacity to cover the GFA Carve Out Schedule.

(b) The Transmission Provider will remove charges for cost of congestion and cost of marginal losses from the Settlement Statement as provided in Section 10.1(5) of Attachment AE, only if the GFA Responsible Entity submits a GFA Carve Out Schedule and E-Tag (as applicable) according to the procedures specified in Section 8.2.2.1 of Attachment AE for the Day-Ahead Market for the GFA Carve Out transaction, consistent with the GFA Settlement Locations, and within the maximum MW Capacity permissible under the GFA Carve Out. The GFA Responsible Entity must update the GFA Carve Out Schedule after the close of the Day-Ahead Market with the actual energy transacted that corresponds to the GFA Carve Out.

(c) The Transmission Provider shall account for the GFA Carve Out in the TCR Markets, but shall not allocate ARR or assign TCR to the GFA Responsible Entity for a GFA Carve Out.

(d) The GFA Responsible Entity is responsible to coordinate the GFA Carve Out Schedule data and to ensure the consistency of the GFA Carve Out Schedules. The Market Monitor will monitor GFA Carve Out Schedules in accordance with Section 4.6 of Attachment AG.

8.2.2.1 GFA Carve Out Schedules

The GFA Responsible Entity shall create GFA Carve Out Schedules for all energy transacted under the GFA, as described in the Market Protocols. The GFA Responsible Entity shall submit: (i) GFA Carve Out Schedules for both the

Resource Settlement Location and Load Settlement Location within the SPP BA; and (ii) an E-Tag for GFA Carve Out transactions with Resource Settlement Location or Load Settlement Location external to the SPP BA. Such submittal of the GFA Carve Out Schedule and E-Tag (as applicable) shall be consistent with the provisions set forth herein for any sales and purchases of Energy pursuant to a GFA Carve Out.

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Operating Reserve

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes and the Real-Time Balancing Energy Markets, collectively referred to as the Energy and Operating Reserve Markets.

3.1 Local Market Power Test

A Resource satisfying at least one of the following conditions is determined to have local market power:

(1) The Resource is located in a Frequently Constrained Area, as described in Section 3.1.1, and one or more of the transmission constraints that define the Frequently Constrained Area is binding or the Reserve Zone that defines the area is binding;

(2) The Resource is not in a Frequently Constrained Area and

(a) has a Resource-to-Load-Distribution factor less than or equal to negative five percent (-5%) relative to a binding transmission constraint; or

(b) is located in a binding Reserve Zone;

(3) The Resource is manually committed by the Transmission Provider or selected for commitment by a local transmission operator as described in Attachment AE, Sections 4.5.2, 4.5.3, 5.1.2, 5.2.2(3), 5.2.2(4), 6.1.2(3), and 6.1.2(4).

3.1.1 Frequently Constrained Areas

A Frequently Constrained Area is an electrical area identified by the Market Monitor that is defined by one or more binding transmission constraints or binding Reserve Zone constraints that are expected to be binding for at least five-hundred (500) hours during a given twelve (12)-month period and within which one (1) or more suppliers are pivotal. All Frequently Constrained Areas shall be listed in Addendum 1 of this Attachment AF. Any new or modifications to existing Frequently Constrained Areas are subject to prior Commission approval.

3.1.1.1 Pivotal Supplier Test

A supplier is pivotal when the energy output or provision of operating reserves by any or some of its Resources jointly must be increased or decreased to resolve the binding transmission constraint or binding Reserve Zone constraint during some or all hours. This will be determined utilizing transmission load flow cases or RTBM market cases reflecting a variety of market conditions.

These load flow or market cases will be used to estimate: (i) the generation shift factors for all relevant Resources and relevant resources outside the SPP Balancing Authority Area relative to each potentially constrained flowgate; (ii) the capability of all Resources to meet the requirements of each binding Reserve Zone constraint; (iii) the base loadings of Resources; (iv) the base allocation of Operating Reserves on Resources; and (v) the base flows on each flowgate. A supplier is pivotal when a binding transmission constraint or a binding Reserve Zone constraint cannot be relieved by changing the base loadings for other suppliers' Resources.

3.1.1.2 Initial Designation of Frequently Constrained Areas

The Market Monitor will define and recommend the Frequently Constrained Areas to the SPP Board of Directors prior to the start of the Integrated Marketplace.

3.1.1.3 Changes to Frequently Constrained Area Designation

The Market Monitor shall reevaluate the Frequently Constrained Areas at least annually or more frequently as the Market Monitor deems necessary. The Transmission Provider may propose an area be designated or undesignated as a Frequently Constrained Area if the Transmission Provider believes that conditions have changed with respect to the binding transmission constraint or binding Reserve Zone constraints that define the Frequently Constrained Area. The Market Monitor shall evaluate any proposed change and seek comments from the Market Participants before recommending to designate, modify, or undesignate a Frequently Constrained Area. Subject to any applicable confidentiality requirements, the Market Monitor will provide any interested Market Participants with a description of its supporting analysis to allow comment on the proposed designation changes. The Market Monitor will recommend any changes to the Frequently Constrained Areas to the SPP Board of Directors for approval.

3.2 Mitigation Measures for Energy Offer Curves

Mitigated Energy Offer Curves shall be submitted on a daily basis by the Market Participant in accordance with the mitigated offer development guidelines in the Market Protocols. The mitigated Energy Offer Curve may be updated up to 1100 hours on the day before the Operating Day for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of 1100 hours on the day before the Operating Day will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day; for all other Resources the mitigated Energy Offer Curve submitted at the time the Day-Ahead RUC begins will apply to the Day-Ahead RUC on the day before the Operating Day, and the Intra-Day RUC processes and the RTBM on the Operating Day.

A. The Energy Offer Curve conduct thresholds are as follows:

(1) For Resources with local market power as described in Section 3.1(3), the conduct threshold is a 10% increase above the mitigated Energy Offer Curve;

(2) For Resources located in a Frequently Constrained Area and not subject to Section 3.2(A)(1), the conduct threshold is a 17.5% increase above the mitigated Energy Offer Curve;

(3) For all other Resources the conduct threshold is a 25% increase above the mitigated Energy Offer Curve.

B. The Transmission Provider shall apply mitigation measures by replacing the Energy Offer Curve with the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the applicable conduct threshold; and

(2) The Resource has local market power as determined in Section 3.1; and

(3) The Resource either:

(a) Fails the Market Impact Test as described in Section 3.7, or

(b) Has local market power as described in Section 3.1(3).

An Energy Offer below $25/MWh will not be subject to mitigation measures for economic withholding.

C. The mitigated energy offer shall be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM") as detailed in the Market Protocols.

D. Opportunity cost shall be an estimate of the Energy and Operating Reserve Markets revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions as detailed in the Market Protocols. The run-time restrictions shall be updated as specified in the Market Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Market Protocols. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitoring Unit and determined by reference to the manufacturer's recommendation or bulletin, or

a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel Supply Limitations.

Resource specific opportunity costs are calculated by forecasting Locational Marginal Prices based on futures contract prices for natural gas and the historical relationship between the SPP system marginal Energy component of LMP and the price of natural gas, as determined by the SPP Market Monitoring Unit. The formulas and instructions in the price forecast model shall be determined by the SPP Market Monitoring Unit and published in the Market Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the SPP Market Monitoring Unit. Such forecasts of LMPs shall take into account historical variability, and basis differentials affecting the Settlement Location at which the Resource is located for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions, and shall subtract therefrom the forecasted costs to generate energy at the Settlement Location at which the Resource is located, as specified in more detail in Appendix G of the Market Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost shall be zero. The Market Monitoring Unit will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitoring Unit determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

The following formula shall apply to all mitigated Energy Offer Curves:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) * Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh)

The Market Participant shall submit heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitoring Unit. All cost data and cost calculation descriptions are subject to the review and approval of the SPP Market Monitoring Unit to ensure reasonableness and consistency across Market Participants. The information will be sufficient for replication of the mitigated Energy Offer Curve and shall include, among other data, the following information:

(1) For fuel costs, Market Participants shall provide the Market Monitoring Unit with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants shall report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants shall submit VOM costs, calculated in adherence with the Appendix G of the Market Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in Appendix G of the Market Protocols.

For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve shall be developed in the same manner as any other generating Resource as described above. For Demand Response Resources utilizing load reduction, the mitigated Energy Offer Curve shall reflect the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve may include, but shall not exceed, any quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation will not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market; monitoring of Energy Offers for Non-Dispatchable Variable Energy Resources will occur.

E. In the event that the Transmission Provider requests that a Resource remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated energy offer curve that reflects the procurement of higher cost fuel. Intra-day changes to the mitigated energy offer curve must follow the mitigated offer development guidelines in the Market Protocols and will be validated by the Market Monitor.

F. In all cases under this Section 3.2, cost data submitted for the development of mitigated offers, including opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.3 Mitigation Measures for Start-Up Offers and No-Load Offers

A mitigated Start-Up Offer and a mitigated No-Load Offer shall be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines in the Market Protocols. The mitigated Start-Up and No-Load Offers may be updated up to 1100 hours on the day before the Operating Day for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the Start-Up and No-Load Offers may be updated until the Day-Ahead RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the Day-Ahead RUC begins will apply to the Day-Ahead RUC on the day before the Operating Day and the Intra-Day RUC on the Operating Day.

A. The Start-Up and No-Load Offer conduct thresholds are as follows:

(1) For Resources with local market power as described in Section 3.1(3), the conduct threshold is a 10% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable;

(2) For all other Resources the conduct threshold is a 25% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

B. The Transmission Provider shall apply mitigation measures by replacing the Start-Up or No-Load Offer with the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has local market power as determined in Section 3.1; and

(3) The Resource either:

(a) Fails the Market Impact Test as described in Section 3.7, or

(b) Has local market power as described in Section 3.1(3).

C. The mitigated Start-Up Offer shall represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor cost of electricity for station use to start ("Station Service"), maintenance costs attributed to starts, and additional labor costs, if required above normal station staffing levels. The following formula shall apply to all mitigated Start-Up Offers:

Mitigated Start-Up Offer ($/Start) = [Start Fuel (mmBtu/Start) * Total Fuel Related Costs ($/mmBtu) * Performance Factor] + [Station Service (MWh/Start) *
Station Service Rate ($/MWh)] + Start VOM ($/Start) + Start Additional Labor Cost ($/Start)

The mitigated Start-Up Offer for Demand Response resources shall be the cost to shut down or curtail load for a given period, which varies with the number of deployments rather than the amount of response, and/or the start cost of Behind-The-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources shall be zero.

D. The mitigated No-Load Offer shall be the hourly fixed cost required to create a monotonically increasing mitigated Energy Offer Curve. It shall be calculated according to either of two methods:

(1) No-Load Fuel Approach

Mitigated No-Load Offer ($/hour) = No Load Fuel (mmBtu/hour) * Performance Factor * (No-Load VOM ($/mmBtu) + Total Fuel Related Cost ($/mmBtu)

(2) No-Load Cost Approach

Mitigated No-Load Offer ($/hour) =

(Heat Input at Minimum Economic Capacity Operating Limit (mmBtu) * Performance Factor *

(Total Fuel Related Cost ($/mmBtu) + No Load VOM ($/mmBtu))) –

(Incremental Cost up to Minimum Economic Capacity Operating Limit ($/MWh) * Minimum Economic Capacity Operating Limit (MW))

The mitigated No-Load Offer for Demand Response Resources utilizing Behind-The-Meter Generation shall adhere to the same definition above as a generating Resource. For Demand Response Resources utilizing load reduction, the mitigated No-Load Offer shall not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources shall be zero.

E. The Market Participant shall submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM. All cost data and cost calculation descriptions are subject to the review and approval of the SPP Market Monitoring Unit to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant shall include the following:

(1) For fuel costs, Market Participants shall provide the Market Monitoring Unit with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants shall report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants shall submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation and updating of these costs are included in Appendix G of the Market Protocols.

F. In all cases under this Section 3.3, cost data submitted for the development of mitigated offers, including opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.4 Mitigation Measures for Operating Reserve Offers

A mitigated offer for each Operating Reserve product shall be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines in the Market Protocols. The mitigated Operating Reserve Offers may be updated up to 1100 hours on the day before the Operating Day for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead

Market, the mitigated Operating Reserve Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Operating Reserve Offers submitted as of 1100 hours on the day before the Operating Day will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day; for all other Resources, the mitigated Operating Reserve Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

A. The offer conduct thresholds for each of the Operating Reserve products are as follows:

   (1) For Resources with local market power as described in Section 3.1(3), the conduct threshold is a 10% increase above the mitigated offer for the applicable Operating Reserve Offer;

   (2) For all other Resources, the conduct threshold is a 25% increase above the mitigated offer for the applicable Operating Reserve Offer.

B. Any Operating Reserve Offer exceeding the applicable threshold, except offers below $10/MWh, will be deemed excessive. The Transmission Provider shall apply mitigation measures by replacing the Operating Reserve Offer with the applicable mitigated Operating Reserve Offer if:

   (1) The Resource's Operating Reserve Offer exceeds the applicable mitigated offer by the conduct threshold; and

   (2) The Resource has local market power as determined in Section 3.1; and

   (3) The Resource either:

      (a) Fails the Market Impact Test as described in Section 3.7, or

      (b) Has local market power as described in Section 3.1(3).

C. The mitigated Spinning Reserve Offer shall be equal to zero for Resources other than combustion turbines, reciprocating engines and hydro Resources operating as a synchronous condenser. No known incremental costs are incurred for providing Spinning Reserves from other resource types.

Total mitigated Spinning Reserve Offer for combustion turbines, reciprocating engines and hydro Resources operating as a synchronous condenser shall not exceed any additional fuel related costs, maintenance costs and power consumption costs necessary for the Resource to be prepared for deployment of Spinning Reserve:

Mitigated Spinning Reserve Offer ($/MW) ≤
(Additional Fuel Cost($/Hr) + Additional Maintenance Cost ($/Hr) + Condensing Power Cost ($/Hr)) /
Spinning Reserve MW

The mitigated Supplemental Reserve Offer shall not exceed labor costs necessary for the Resource to be prepared for deployment of Supplemental Reserve:

Mitigated Supplemental Reserve Offer ($/MW) ≤
Additional Labor Cost($) / Average Supplemental Reserve MW

D. The mitigated Regulation-Up Offer shall not exceed the sum of the cost increase due to:

(1) the heat rate increase during non-steady state operation,

(2) increase in VOM due to non-steady state operation,

(3) uncompensated costs, as described in the Market Protocols:

Mitigated Regulation-Up Offer ($/MW) <
Cost Increase due to Heat Rate Increase during non-steady state operation ($/MW) +
Cost Increase in VOM ($/MW) + Uncompensated Cost ($/MW)

E. The mitigated Regulation-Down Offer shall not exceed the sum of the cost increase due to:

(1) the heat rate increase during non-steady state operation,

(2) increase in VOM due to non-steady state operation,

(3) uncompensated costs, as described in the Market Protocols:

Mitigated Regulation-Down Offer ($/MW) <
Cost Increase due to Heat Rate Increase during non-steady state operation ($/MW) +

Cost Increase in VOM ($/MW) + Uncompensated Cost ($/MW)

Further details associated with the development of the exact costs in the formulas above are included in the Market Protocols.

F. The Market Participant may include in the calculation of its mitigated Operating Reserve Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the SPP Market Monitoring Unit that such costs are legitimate and verifiable and not otherwise included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions shall be updated as specified in the Market Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Market Protocols. The formulas and instructions in the price forecast model for any such opportunity costs shall be determined by the SPP Market Monitoring Unit and published in the Market Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the SPP Market Monitoring Unit. Opportunity costs for mitigated Operating Reserve Offers shall not include Energy and Operating Reserve Markets revenues associated with forgone Energy or other types of Operating Reserve production to the extent that such costs are included in market outcomes.

G. All cost data and cost calculation descriptions are subject to the review and approval of the SPP Market Monitoring Unit to ensure reasonableness and consistency across Market Participants. The information will be sufficient for replication of the mitigated Operating Reserve Offers and shall include, among other data, the following information:

(1) For fuel costs, Market Participants shall provide the Market Monitoring Unit with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation

and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants shall report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants shall submit VOM costs, calculated in adherence with the Appendix G of the Market Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

H. In all cases under this Section 3.4, cost data submitted for the development of mitigated offers, including opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.5 Validation of Mitigated Resource Offer Parameters

The Market Monitor shall review the costs included in each mitigated Resource Offer in order to ensure that the Market Participant has correctly applied the formulas and definitions in Sections 3.2, 3.3, 3.4 and the Market Protocols and that the level of the mitigated offer is otherwise acceptable. If the mitigated offer determined by the Market Monitor and the Market Participant differ, the mitigated offer calculated by the Market Monitor shall be used. If a Market Participant submits a dispute over its mitigated offer, the previously approved mitigated offer shall be used from the time the dispute is submitted until the dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers shall be those specified in the Market Protocols. The Transmission Provider shall remedy mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor.

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor shall keep such data confidential, and all cost data submitted under this Section 3.5, including any opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff. The

Market Monitor shall develop and maintain on the Transmission Provider's website the mechanism and procedures to allow Market Participants to submit such cost data.

3.6 Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in units other than dollars and will only apply in the presence of local market power as described in Section 3.1 of this Attachment AF. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource shall be determined prior to the start of the Energy and Operating Reserve Markets by one or both of the following methods: (i) the reference levels will be determined through consultation between the Market Participant and the Market Monitor; and/or (ii) the reference levels will be based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters shall apply to all Resources at the start of the Energy and Operating Reserve Markets and to all Resources that register subsequent to the start of the Energy and Operating Reserve Markets. The Transmission Provider's output forecast for a wind-powered Variable Energy Resource shall be used as the reference maximum output limit for the wind-powered Variable Energy Resource.

The following thresholds shall be used by the Transmission Provider to identify Resource Offers that may warrant mitigation and shall be determined with respect to the corresponding reference level:

Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.

Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.

Minimum Economic Capacity Operating Limit threshold for Resources manually committed in accordance with Attachment AE, Sections 5.2.2(3), 6.1.2(3), and 6.1.2(4) of this Tariff: twenty-five percent (25%) increase.

In the case that a Resource Offer fails the thresholds described above, the Market Monitor shall determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.7, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Transmission Provider of any potential issue. If the Transmission Provider, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Transmission Provider shall replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

In all cases under this Section 3.6, cost data submitted for the development of mitigated offers, including opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.7 Market Impact Test

The Transmission Provider will apply the following market impact test in the Day-Ahead Market, Day-Ahead RUC, Intra-Day RUC and Real-Time Balancing Market in the event the conditions described in Section 3.1 are satisfied:

After an initial market solution is computed with no mitigation measures in place, a second market solution, called the mitigated market solution, will be computed with the appropriate mitigation measures applied. If an LMP or MCP at a Settlement Location from the initial market solution exceeds the corresponding price from the mitigated market solution by the applicable impact test threshold, or a make whole payment for any Resource from the initial market solution exceeds the corresponding make whole payment from the mitigated market solution by make whole payment impact test threshold, then the mitigated market solution will be used for dispatch, commitment, and settlement purposes.

The impact test thresholds are as follows: At market start, the LMP impact threshold is five dollars ($5) per megawatt hour, the MCP impact threshold is five dollars ($5) per megawatt hour, and the make whole payment impact threshold is five dollars ($5) per megawatt hour. At the beginning of each six (6) month period after the market start, the LMP and MCP impact thresholds will be increased ten dollars ($10) per megawatt hour and the make whole payment impact threshold will be increased by ten dollars ($10) per megawatt hour unless the Market Monitor finds market behavior that warrants keeping the threshold constant for the next six (6) months. The periodic increases will continue until the LMP impact threshold is twenty-five dollars ($25) per megawatt hour, the MCP impact threshold is twenty-five dollars ($25) per megawatt hour, and the make whole payment impact threshold is twenty-five dollars ($25) per megawatt hour.

3.8 Mitigation Exceptions

A. The Market Monitor shall, as soon as practicable and if warranted in light of the information available to the Market Monitor, contact a Market Participant to request an explanation of its actions in cases when an impact threshold in Section 3.7 of this Attachment AF is exceeded and the Market Participant's offer exceeded the mitigated offer by more than the relevant conduct threshold, as specified in Section 3.2, 3.3, or 3.4 of this Attachment AF.

B. If a Market Participant anticipates submitting an offer that will exceed the mitigated offer by more than the relevant conduct threshold, it may contact the Market Monitor to provide an explanation of the changes in its offer. If the Market Participant's pre-offer explanation indicates to the Market Monitor that the questioned behavior is consistent with competitive behavior, the Transmission Provider will not impose mitigation with respect to that offer unless and until circumstances are deemed to warrant it, and the Transmission Provider or the Market Monitor so notifies the

Market Participant. In circumstances where, following a Market Participant's pre-offer explanation, both the conduct and impact thresholds are violated but no mitigation is imposed, the Market Monitor will record such instances and will report such instances to the Commission's Office of Enforcement, or its successor organization, every three months during the first year of Integrated Marketplace operations, and yearly thereafter. To the extent that the report contains sensitive data, the Market Monitor should include any such data in a non-public version of the report.

3.9 Sanctions for Noncompliance with the Day-Ahead Market Must Offer Requirement

A. In the case that a Market Participant is found to be noncompliant for an Asset Owner as determined by the conditions set forth in Section 2.11.1 of Attachment AE, the Market Participant shall be assessed a penalty for that Asset Owner by the Transmission Provider for each megawatt of withheld capacity below the 10% tolerance band. The penalty amount shall be equal to the Day-Ahead Market LMP associated with the withheld capacity.

B. The Market Monitor will monitor for, and report to the Commission's Office of Enforcement, or its successor organization, manipulative behavior associated with Day-Ahead Offers, including (but not limited to) monitoring load-serving Market Participants who do not offer enough net resource capacity to meet their maximum hourly Reported Load. The Market Monitor will also report to the Commission's Office of Enforcement or its successor organization any locational problems, such as deliverability issues, associated with load-serving Market Participants' offers in the Day-Ahead Market, any identified efforts by Market Participants to raise prices in the RTBM by limiting Day-Ahead Offers, and the effects of any such efforts upon make whole payments.

4. Market Monitoring

4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission or capacity markets and services in regions adjacent to the SPP Region except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

The Market Monitor will implement the Plan. The markets will require continuous monitoring by the Market Monitor. The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment process and/or Real-Time Balancing Market;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) SPP Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

(i) Conditions or events both inside and outside the SPP Balancing Authority Area affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

(j) Information regarding transmission services and rights, including the estimating and posting of Available Transfer Capability ("ATC") or Available Flowgate Capability ("AFC"), administration of this Tariff, the operation and maintenance of the transmission system, any auctions or other markets for transmission rights, and the reservation and scheduling of transmission service;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services; and

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses.

(o) Logs of transmission service requests and Generation Interconnection Requests along with the disposition of each request and the explanation of any refused requests: and

(p) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2.

(q) GFA Carve Out Schedules.

4.2.1 Additional Market Monitor Duties

(a) In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

(b) The Market Monitor shall evaluate the effectiveness of Markets and Services in signaling the need for investment in new generation, transmission or demand response infrastructure and report on its findings at least annually.

4.3 Referrals to the Commission

(a) The Market Monitor shall report suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with the FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such reports by the Market Monitor to FERC Staff shall be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

4.4 Monitoring for Potential Integrated Marketplace Manipulation

The Market Monitor will monitor for potential instances of market manipulation in the Integrated Marketplace. Such actions or transactions that are without a legitimate business purpose and that are intended to or foreseeably could manipulate market prices (including actions resulting in excessive day-ahead clearing prices), market conditions, or market rules for electric energy or electric products are prohibited. As listed by the FERC, prohibited behavior includes (a) wash trades, (b) submission of false data, (c) actions to cause artificial congestion and (d) collusive acts. The Market Monitor will report any market manipulation in the Integrated Marketplace in a timely manner.

4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor shall monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

The Market Monitor shall refer any perceived market design flaws and recommended Tariff language changes to the Commission’s Office of Energy Market Regulation (or its successor office/organization). In addition, the Market Monitor shall refer any instance(s) of the suspected exercise of transmission market power directly to the Commission’s Office of Enforcement (or its successor organization) utilizing the protocols for referrals to the Commission for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv). Where appropriate, the Market Monitor shall also provide the FERC with an estimate of damages equal to (i) the effect on prices multiplied by

(ii) the affected energy produced by the Transmission/Generation Owner. The Market Monitor may also request the FERC to impose additional sanctions and penalties, which may consist of a fixed dollar amount based on each instance, or an amount up to (i) the effect on prices multiplied by (ii) the affected energy produced by Market Participants other than the Transmission/Generation Owner. All such referrals by the Market Monitor to FERC will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release.

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor shall monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; (4) uneconomic Virtual Bids and Virtual Offers; and (5) gaming related to GFA Carve Out Schedules. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment AF. When the Market Monitor determines that there is sufficient credible information about a specific abusive practice, the issue will be referred to the Commission's Office of Enforcement (or its successor organization). Nothing in this section shall limit the Market Monitor's obligation to refer other suspected market violations to the Commission's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions.

4.6.1 Uneconomic Production

The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. The provisions of this Section 4.6.1 shall not apply to Demand Response Resources.

(a) Potential uneconomic production will be indicated, and subject to further analysis as described in (b) of this Section 4.6.1, when the Resource has a positive Resource-to-Load Distribution Factor and any of the following conditions are met:

(1) a Resource is identified with an incremental energy offer price less than 50 percent of the applicable reference level; or

(2) a Resource is determined to be generating outside of its Operating Tolerance; or

(3) a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic.

(b) For any Resource meeting the conditions described in (a) of this Section 4.6.1, the Market Monitor shall determine whether: (i) the MW impact from uneconomic production associated with such Resource is exacerbating the transmission congestion or binding a Reserve Zone; and (ii) the uneconomic production is not obviously justified by reliability or other operational concerns.

The Market Monitor will conduct evaluations as specified above and other related assessments to determine if there is sufficient credible information to justify referral to the Commission.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market

Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Transmission Provider shall impose mitigation measures described in Section 4.0 of Attachment AF.

4.6.3 Metric and Threshold Specifications

The Market Monitor will compute the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: $[(LMP_{RTBM} / LMP_{DA\ Market}) – 1] * 100$. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the four (4) week rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

The Market Monitor will monitor for physical withholding of capacity from the Energy and Operating Reserve Markets, and unavailability of facilities. Physical withholding and unavailability of facilities may include:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the dispatch instruction;

(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint or binding reserve zone or local reliability issue; and

(f) Declaring that the capability of Resources to provide Energy or Operating Reserves is reduced for reasons that are not true or verifiable.

Market Participants will not be deemed to be physically withholding if they are following the directions of the SPP Balancing Authority, Reliability Coordinator, or applicable reliability standards. In addition, Market Participants will not be determined to have physically withheld if they are selling into another market at a higher price.

4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

4.6.4.1.1 A Market Participant is deemed to be physically withholding capacity in a Frequently Constrained Area if all of the following conditions exist:

(a) One or more of the transmission constraints or Reserve Zone constraints that define the Frequently Constrained Area are binding; and

(b) The Market Participant controls or owns a Resource located in the Frequently Constrained Area that satisfies condition 4.6.4(a), 4.6.4(b), 4.6.4(c), or 4.6.4(f) of this Attachment AG.

4.6.4.1.2 A Market Participant is deemed to be physically withholding capacity in an area not designated as a Frequently Constrained Area if all of the following conditions exist:

(a) One or more transmission constraints are binding or a Reserve Zone is binding; and

(b) The Resource(s) meets either of the following criteria (1) or (2);

(1) Such Resource(s) satisfy one of the conditions in Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) of this Attachment AG and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

(2) Where the real-time output of each such Resource is less than the Resource's Operating Tolerance defined in Attachment AE, Section 6.4.1 of this Tariff and the Resource is not exempt from Uninstructed Resource Deviation under Attachment AE, Section 6.4.1.1 of this Tariff.

4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Section 4.6.4(d) or 4.6.4(e) of this Attachment AG; or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Sections 4.6.4.1 and 4.6.4.2 of this Attachment AG and notify the Commission's Office of Enforcement, or successor organization, of such behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor shall make a referral to the Commission as described in Section 4.3 of this Attachment AG.

5.2.2 Day-Ahead Reliability Unit Commitment Execution

The Transmission Provider will perform a capacity adequacy analysis for the upcoming Operating Day using the SCUC algorithm with the objective of committing Resources to meet the Transmission Provider load forecast, Export Interchange Transactions, Head-room requirements, Floor-room requirements, and Operating Reserve requirements less Import Interchange Transactions over the Operating Day such that commitment costs are minimized while adhering to Transmission System security constraints and the Resource operating parameter constraints submitted as part of the RTBM Offers.

(1) Commitment costs used in the SCUC are defined as Start-Up Offer, No-Load Offer and incremental cost to operate at minimum output as defined in the submitted Energy Offer Curve.

(2) The SCUC algorithm will initially consider commitment of Resources not specified for reliability only use as described in Section 4.1(10)(c) of this Attachment AE, up to the Resources' Maximum Economic Capacity Operating Limit or Maximum Regulation Capacity Operating Limit if selected for Regulation-Up *and/or Regulation-Down*, and down to the Resources' Minimum Economic Capacity Operating Limit or Minimum Regulation Capacity Operating Limit if selected for Regulation-Down *and/or Regulation-Up*.

(a) If this capacity plus Import Interchange Transactions is not sufficient on a system-wide basis to meet the Transmission Provider load forecast, Export Interchange Transactions, Head-room requirements, and Operating Reserve requirements, the SCUC algorithm will, in priority order: (1) Curtail non-firm fixed Export Interchange Transaction Bids until the capacity shortage is eliminated; and (2) Incorporate capacity up to Resources' Maximum Emergency Capacity Operating Limits and/or commit Resources designated as reliability only use, as described in Section 4.1(10)(c) of this Attachment AE, on an economic basis until the capacity shortage is eliminated while attempting to maintain the Regulation-Up requirement.

(b) If there is a capacity surplus on a system-wide basis calculated as the sum of self-committed capacity at minimum output, fixed Import Interchange Transactions, Floor-room requirements, and the Regulation-Down requirements that is in excess of the sum of the Transmission Provider load forecast and fixed Export Interchange Transactions, the SCUC algorithm will, in priority order: (1) curtail non-firm fixed Import Interchange Transaction Offers until the capacity surplus is eliminated; (2) incorporate capacity down to Resources' Minimum Emergency Capacity Operating Limits until the capacity surplus is eliminated while attempting to maintain the Regulation-Down requirement; (3) de-commit Resources that were committed by the Transmission Provider in the Day-Ahead Market that were not self-committed until the capacity surplus is eliminated; and (4) de-commit self-committed Resources until the capacity surplus is eliminated.

(3) To the extent that a particular security constraint impacting only the Transmission System cannot be directly addressed within the SCUC algorithm and is not a Local Reliability Issue, the Transmission Provider may manually commit Resources and/or decommit Resources, including self-committed Resources to alleviate such a Transmission System security constraint in accordance with its authority as Reliability Coordinator. Such manual commitments shall be selected by the Transmission Provider in a non-discriminatory manner, which will be verified by the Market Monitor through the process described under Section 6.1.2.1 of this Attachment AE. Additionally, such manual commitments shall be selected by the Transmission Provider to ensure that commitment costs are minimized while adhering to Transmission System security constraints and the Resource operating parameter constraints submitted as part of the RTBM Offers. The recovery of the compensation paid by the Transmission Provider for such committed Resources under Section 8.6.5 of this Attachment AE shall be collected by the Transmission Provider regionally as described under Section 8.6.7(A) of this Attachment AE.

(4) A Local Reliability Issue may arise during the Day-Ahead Reliability Unit Commitment process. Such Local Reliability Issues may require out of merit commitment, decommitment, or dispatch instructions to be issued to one or more Resources to resolve the reliability issue. In such cases, the Transmission Provider shall issue or the local transmission operator shall request the Transmission Provider to issue such instructions and any commitment by the Transmission Provider shall be selected by the Transmission Provider in a non-discriminatory manner, which will be verified by the Market Monitor through the process described under Section 6.1.2.1 of this Attachment AE. To the extent that the Transmission Provider, at the request of a local transmission operator, issues instructions to a Resource to address a Local Reliability Issue, such Resource shall be eligible for compensation in the same manner as any other Resource. The recovery of the compensation paid by the Transmission Provider for such committed Resources under Section 8.6.5 of this Attachment AE shall be collected by the Transmission Provider locally as described under Section 8.6.7(B) of this Attachment AE.

(5) The Transmission Provider, local transmission operator, and Resource owners shall develop operating guides to be applied to manual commitments made by the Transmission Provider, including such commitments made at the request of the local transmission operator to relieve known and recurring Local Reliability Issues in the Day-Ahead RUC. Such Resources will be compensated in the same manner as any other Resource. The recovery of such compensation paid by the Transmission Provider for such committed Resources under Section 8.6.5 of this Attachment AE shall be collected by the Transmission Provider locally as described under Section 8.6.7(B) of this Attachment AE.

8.2 Bilateral Settlement Schedules and GFA Carve Outs

Market Participants may create Bilateral Settlement Schedules for Energy and Operating Reserve obligations by registering and confirming the parameters of the agreement between buyer and seller as described in the Market Protocols. Both the buyer and seller must confirm the Bilateral Settlement Schedule except when the Bilateral Settlement Schedule is associated with an existing bilateral agreement under Section 8.2.1 of this Attachment AE. Either the buyer or seller may terminate the Bilateral Settlement Schedule at any time except when the Bilateral Settlement Schedule is associated with an existing bilateral agreement under Section 8.2.1 of this Attachment AE. ~~In addition, Bilateral Settlement Schedules will be administered pursuant to Attachment X of this Tariff and, if a Bilateral Settlement Schedule is terminated pursuant to Attachment X, the Transmission Provider will resettle with Market Participants as if the Bilateral Settlement Schedule did not exist.~~

Market Participants may submit Bilateral Settlement Schedule quantities for Energy and Operating Reserve obligation for use in the Day-Ahead Market and may submit Bilateral Settlement Schedule quantities for Energy for use in the Real-Time Balancing Market up to four (4) days following the applicable Operating Day for the initial settlement. New submittals and revisions to previously submitted values may be submitted up to forty-four (44) days following the applicable Operating Day to be included in the final settlement. Submittals not confirmed by both parties will not be included in any settlement execution.

Transactions related to Bilateral Settlement Schedules for Energy must specify the Settlement Location, the MW amount, the buyer, the seller and which market it applies to (Day-Ahead Market or RTBM), and must be for the physical transfer of Energy, with title of the energy transferring from the seller to the buyer at the Settlement Location specified for the transaction. Market Participants that submit Bilateral Settlement Schedules for Energy shall use reasonable efforts to limit the megawatt hours of such transactions to amounts reflecting the expected load and other physical delivery obligations of the buyer under the bilateral contract. The seller receives an increase in load obligation equal to the specified MW amount and the buyer receives a reduction in load obligation equal to the specified MW amount (the equivalent of a Resource settlement) at the specified Settlement Location.

Transactions related to Bilateral Settlement Schedules for Operating Reserve obligation must specify the buyer, the seller, the Operating Reserve product, the MW obligation transfer and the Reserve Zone within which the obligation transfer applies and must be for the physical transfer of energy associated with the Operating Reserve product, with title of the Operating Reserve product transferring from the seller to the buyer at the Reserve Zone specified for the transaction. The seller receives an increase in Operating Reserve obligation equal to the specified MW and the buyer receives a corresponding decrease in Operating Reserve obligation within the specified Reserve Zone.

8.2.1 Default Procedures for Pre-Existing Bilateral Contracts Transitioning to Integrated Marketplace

The procedures established under this Section 8.2.1 of Attachment AE shall apply to bilateral contracts entered into prior to the start of the Integrated Marketplace, where the buyer and seller have not agreed to the terms in the Bilateral Settlement Schedules corresponding to such pre-existing bilateral contracts:

(1) Upon request of the buyer, the Transmission Provider shall review and confirm that a particular bilateral contract exists between the buyer and seller. The Transmission Provider shall schedule a meeting between a designated senior representative of the buyer and seller within 30 days of such a request. The Transmission Provider shall conduct these discussions in accordance with Section 12 of the Tariff. Following confirmation, the buyer may register and confirm a Bilateral Settlement Schedule representing the parameters of the agreement. The Transmission Provider shall confirm that the buyer has submitted Bilateral Settlement Schedule parameters that are consistent with those specified in the bilateral contract;

(2) Subsequent submission by either the buyer or the seller of Bilateral Settlement Schedules for Energy and/or Operating Reserve associated with the registered Bilateral Settlement Schedule in either the Day-Ahead Market and/or RTBM must be consistent with the quantities specified in the bilateral contract. Only the buyer is required to confirm;

(3) Only the buyer may terminate the Bilateral Settlement Schedule;

(4) The Settlement Location for Bilateral Settlement Schedules for Energy shall be the source Settlement Location of the associated transmission service reservation as described under Section 7.1.1(1)(a) of this Attachment AE, as applicable;

(5) The Transmission Provider shall not be a party to Bilateral Settlement Schedules and nothing in this Section 8.2.1 of Attachment AE shall impose on the Transmission Provider any obligation regarding the settlement of financial rights and obligations between the parties to Bilateral Settlement Schedules; and

(6) Nothing in this Section 8.2.1 of Attachment AE shall alter the parties' rights and obligations under preexisting bilateral contracts, limit the right of either party to seek enforcement of such rights and obligations, and/or limit a party's right to obtain appropriate relief, pursuant to Section 206 of the FPA or as otherwise in accordance with the law.

8.2.2 GFA Carve Out

A Market Participant receiving GFA Carve Out shall not be charged for the cost of congestion and cost of marginal losses in the Day-Ahead Market for the amount of actual energy (MWh) transacted as specified in the GFA Carve Out Schedule.

(a) GFA Carve Out is only available to the extent that the Resources are offered into the Day-Ahead Market using a commit status as described in Section 4.1(10) (a) or (b) of this Attachment AE. To the extent the source is external, an Import Interchange Transaction must be submitted in the Day-Ahead Market with sufficient capacity to cover the GFA Carve Out Schedule.

(b) The Transmission Provider will remove charges for cost of congestion and cost of marginal losses from the Settlement Statement as provided in Section 10.1(5) of Attachment AE, only if the GFA Responsible Entity submits a GFA Carve Out Schedule and E-Tag (as applicable) according to the procedures specified in Section 8.2.2.1 of Attachment AE for the Day-Ahead Market for the GFA Carve Out transaction, consistent with the GFA Settlement Locations, and within the maximum MW Capacity permissible under the GFA Carve Out. The GFA Responsible Entity must update the GFA Carve Out Schedule after the close of the Day-Ahead Market with the actual energy transacted that corresponds to the GFA Carve Out.

(c) The Transmission Provider shall account for the GFA Carve Out in the TCR Markets, but shall not allocate ARR or assign TCR to the GFA Responsible Entity for a GFA Carve Out.

(d) The GFA Responsible Entity is responsible to coordinate the GFA Carve Out Schedule data and to ensure the consistency of the GFA Carve Out Schedules. The Market Monitor will monitor GFA Carve Out Schedules in accordance with Section 4.6 of Attachment AG.

8.2.2.1 GFA Carve Out Schedules

The GFA Responsible Entity shall create GFA Carve Out Schedules for all energy transacted under the GFA, as described in the Market Protocols. The GFA Responsible Entity shall submit: (i) GFA Carve Out Schedules for both the

Resource Settlement Location and Load Settlement Location within the SPP BA; and (ii) an E-Tag for GFA Carve Out transactions with Resource Settlement Location or Load Settlement Location external to the SPP BA. Such submittal of the GFA Carve Out Schedule and E-Tag (as applicable) shall be consistent with the provisions set forth herein for any sales and purchases of Energy pursuant to a GFA Carve Out.

3. Mitigation Measures for Economic Withholding – Market Power in Energy and Operating Reserve

This section sets forth the market power mitigation measures that are applied in the Day-Ahead Market, Reliability Unit Commitment processes and the Real-Time Balancing Energy Markets, collectively referred to as the Energy and Operating Reserve Markets.

3.1 Local Market Power Test

A Resource satisfying at least one of the following conditions is determined to have local market power:

(1) The Resource is located in a Frequently Constrained Area, as described in Section 3.1.1, and one or more of the transmission constraints that define the Frequently Constrained Area is binding or the Reserve Zone that defines the area is binding;

(2) The Resource is not in a Frequently Constrained Area and

(a) has a Resource-to-Load-Distribution factor less than or equal to negative five percent (-5%) relative to a binding transmission constraint; or

(b) is located in a binding Reserve Zone;

(3) The Resource is manually committed by the Transmission Provider or selected for commitment by a local transmission operator as described in Attachment AE, Sections 4.5.2, 4.5.3, 5.1.2, 5.2.2(3), 5.2.2(4), 6.1.2(3), and 6.1.2(4).

3.1.1 Frequently Constrained Areas

A Frequently Constrained Area is an electrical area identified by the Market Monitor that is defined by one or more binding transmission constraints or binding Reserve Zone constraints that are expected to be binding for at least five-hundred (500) hours during a given twelve (12)-month period and within which one (1) or more suppliers are pivotal. All Frequently Constrained Areas shall be listed in Addendum 1 of this Attachment AF. Any new or modifications to existing Frequently Constrained Areas are subject to prior Commission approval.

3.1.1.1 Pivotal Supplier Test

A supplier is pivotal when the energy output or provision of operating reserves by any or some of its Resources jointly must be increased or decreased to resolve the binding transmission constraint or binding Reserve Zone constraint during some or all hours. This will be determined utilizing transmission load flow cases or RTBM market cases reflecting a variety of market conditions.

These load flow or market cases will be used to estimate: (i) the generation shift factors for all relevant Resources and relevant resources outside the SPP Balancing Authority Area relative to each potentially constrained flowgate; (ii) the capability of all Resources to meet the requirements of each binding Reserve Zone constraint; (iii) the base loadings of Resources; (iv) the base allocation of Operating Reserves on Resources; and (v) the base flows on each flowgate. A supplier is pivotal when a binding transmission constraint or a binding Reserve Zone constraint cannot be relieved by changing the base loadings for other suppliers' Resources.

3.1.1.2 Initial Designation of Frequently Constrained Areas

The Market Monitor will define and recommend the Frequently Constrained Areas to the SPP Board of Directors prior to the start of the Integrated Marketplace.

3.1.1.3 Changes to Frequently Constrained Area Designation

The Market Monitor shall reevaluate the Frequently Constrained Areas at least annually or more frequently as the Market Monitor deems necessary. The Transmission Provider may propose an area be designated or undesignated as a Frequently Constrained Area if the Transmission Provider believes that conditions have changed with respect to the binding transmission constraint or binding Reserve Zone constraints that define the Frequently Constrained Area. The Market Monitor shall evaluate any proposed change and seek comments from the Market Participants before recommending to designate, modify, or undesignate a Frequently Constrained Area. Subject to any applicable confidentiality requirements, the Market Monitor will provide any interested Market Participants with a description of its supporting analysis to allow comment on the proposed designation changes. The Market Monitor will recommend any changes to the Frequently Constrained Areas to the SPP Board of Directors for approval.

3.2 Mitigation Measures for Energy Offer Curves

Mitigated Energy Offer Curves shall be submitted on a daily basis by the Market Participant in accordance with the mitigated offer development guidelines in the Market Protocols. The mitigated Energy Offer Curve may be updated up to 1100 hours on the day before the Operating Day for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the mitigated Energy Offer Curve may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Energy Offer Curve submitted as of 1100 hours on the day before the Operating Day will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day; for all other Resources the mitigated Energy Offer Curve submitted at the time the Day-Ahead RUC begins will apply to the Day-Ahead RUC on the day before the Operating Day, and the Intra-Day RUC processes and the RTBM on the Operating Day.

A. The Energy Offer Curve conduct thresholds are as follows:

(1) For Resources with local market power as described in Section 3.1(~~4~~3), the conduct threshold is a 10% increase above the mitigated Energy Offer Curve;

(2) For Resources located in a Frequently Constrained Area and not subject to Section 3.2(A)(1), the conduct threshold is a 17.5% increase above the mitigated Energy Offer Curve;

(3) For all other Resources the conduct threshold is a 25% increase above the mitigated Energy Offer Curve.

B. The Transmission Provider shall apply mitigation measures by replacing the Energy Offer Curve with the mitigated Energy Offer Curve if:

(1) The Resource's Energy Offer Curve exceeds the mitigated Energy Offer Curve by the applicable conduct threshold; and

(2) The Resource has local market power as determined in Section 3.1; and

(3) The Resource either:

(a) Fails the Market Impact Test as described in Section 3.7, or

(b) Has local market power as described in Section 3.1(~~4~~3).

An Energy Offer below $25/MWh will not be subject to mitigation measures for economic withholding.

C. The mitigated energy offer shall be the Resource's short-run marginal cost of producing energy as determined by the unit's heat rate; fuel costs and the costs related to fuel usage, such as transportation and emissions costs ("total fuel related costs"); and Energy Offer Curve ("EOC") variable operations and maintenance costs ("VOM") as detailed in the Market Protocols.

D. Opportunity cost shall be an estimate of the Energy and Operating Reserve Markets revenues net of short run marginal costs for the marginal forgone run time during the timeframe when the Resource experiences the run-time restrictions as detailed in the Market Protocols. The run-time restrictions shall be updated as specified in the Market Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Market Protocols. The Market Participant may include in the calculation of its mitigated Energy Offer Curve an amount reflecting the resource-specific opportunity costs expected to be incurred under the following circumstances:

(1) Externally imposed environmental run-hour restrictions; or

(2) Physical equipment limitations on the number of starts or run-hours, as verified by the Market Monitoring Unit and determined by reference to the manufacturer's recommendation or bulletin, or

a documented restriction imposed by the applicable insurance carrier; or

(3) Fuel Supply Limitations.

Resource specific opportunity costs are calculated by forecasting Locational Marginal Prices based on futures contract prices for natural gas and the historical relationship between the SPP system marginal Energy component of LMP and the price of natural gas, as determined by the SPP Market Monitoring Unit. The formulas and instructions in the price forecast model shall be determined by the SPP Market Monitoring Unit and published in the Market Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the SPP Market Monitoring Unit. Such forecasts of LMPs shall take into account historical variability, and basis differentials affecting the Settlement Location at which the Resource is located for the three-year period immediately preceding the period of time in which the Resource is bound by the referenced restrictions, and shall subtract therefrom the forecasted costs to generate energy at the Settlement Location at which the Resource is located, as specified in more detail in Appendix G of the Market Protocols. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting opportunity cost shall be zero. The Market Monitoring Unit will verify all Market Participants' opportunity cost calculations for consistency and accuracy. When the Market Monitoring Unit determines that the market price for any period was not competitive, it will adjust the LMP forecasting process used in the opportunity cost calculations to ensure that forecasted LMPs do not reflect non-competitive market conditions.

The following formula shall apply to all mitigated Energy Offer Curves:

Mitigated Energy Offer ($/MWh) = HeatRate (mmBtu/MWh) * Performance Factor * Total Fuel Related Costs ($/mmBtu) + EOC VOM ($/MWh) + Opportunity Costs ($/MWh)

The Market Participant shall submit heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM to the Market Monitoring Unit. All cost data and cost calculation descriptions are subject to the review and approval of the SPP Market Monitoring Unit to ensure reasonableness and consistency across Market Participants. The information will be sufficient for replication of the mitigated Energy Offer Curve and shall include, among other data, the following information:

(1) For fuel costs, Market Participants shall provide the Market Monitoring Unit with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants shall report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants shall submit VOM costs, calculated in adherence with the Appendix G of the Market Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation, and updating of these costs are included in Appendix G of the Market Protocols.

For Demand Response Resources utilizing Behind-The-Meter Generation, the mitigated Energy Offer Curve shall be developed in the same manner as any other generating Resource as described above. For Demand Response Resources utilizing load reduction, the mitigated Energy Offer Curve shall reflect the quantifiable opportunity costs associated with the reduction, net of related offsetting increases in usage.

For Dispatchable Variable Energy Resources, the mitigated Energy Offer Curve may include, but shall not exceed, any quantifiable costs that vary by MWh output, including short-run incremental VOM. Mitigation will not apply to Non-Dispatchable Variable Energy Resources in the Real-Time Balancing Market; monitoring ~~for~~ of Energy Offers for Non-Dispatchable Variable Energy Resources will occur.

E. In the event that the Transmission Provider requests that a Resource remain online past their commitment period by the Day-Ahead Market or a RUC process, the Market Participant may submit an updated mitigated energy offer curve that reflects the procurement of higher cost fuel. Intra-day changes to the mitigated energy offer curve must follow the mitigated offer development guidelines in the Market Protocols and will be validated by the Market Monitor.

F. In all cases under this Section 3.2, cost data submitted for the development of mitigated offers, including ~~additional~~ opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.3 Mitigation Measures for Start-Up Offers and No-Load Offers

A mitigated Start-Up Offer and a mitigated No-Load Offer shall be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines in the Market Protocols. The mitigated Start-Up and No-Load Offers may be updated up to 1100 hours on the day before the Operating Day for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead Market, the Start-Up and No-Load Offers may be updated until the Day-Ahead RUC begins. The mitigated Start-Up and No-Load Offers submitted at the time the Day-Ahead RUC begins will apply to the Day-Ahead RUC on the day before the Operating Day and the Intra-Day RUC on the Operating Day.

A. The Start-Up and No-Load Offer conduct thresholds are as follows:

(1) For Resources with local market power as described in Section 3.1(~~4~~3), the conduct threshold is a 10% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable;

(2) For all other Resources the conduct threshold is a 25% increase above the mitigated Start-Up or mitigated No-Load Offer, as applicable.

B. The Transmission Provider shall apply mitigation measures by replacing the Start-Up or No-Load Offer with the applicable mitigated Start-Up or No-Load Offer if:

(1) The Resource's Start-Up or No-Load Offer exceeds the mitigated Start-Up or mitigated No-Load Offer, as applicable, by the applicable conduct threshold; and

(2) The Resource has local market power as determined in Section 3.1; and

(3) The Resource either:

(a) Fails the Market Impact Test as described in Section 3.7, or

(b) Has local market power as described in Section 3.1(~~4~~3).

C. The mitigated Start-Up Offer shall represent the cost per start as determined from start fuel usage and the costs related to that fuel usage, Performance Factor cost of electricity for station use to start ("Station Service"), maintenance costs attributed to starts, and additional labor costs, if required above normal station staffing levels. The following formula shall apply to all mitigated Start-Up Offers:

Mitigated Start-Up Offer ($/Start) = [Start Fuel (mmBtu/Start) * Total Fuel Related Costs ($/mmBtu) * Performance Factor] + [Station Service (MWh/Start) *

Station Service Rate ($/MWh)] + Start VOM ($/Start) + Start Additional Labor Cost ($/Start)

The mitigated Start-Up Offer for Demand Response resources shall be the cost to shut down or curtail load for a given period, which varies with the number of deployments rather than the amount of response, and/or the start cost of Behind-The-Meter Generation utilizing the mitigated Start-Up Offer calculation applicable to other generation Resources as defined above.

The mitigated Start-Up Offer for Variable Energy Resources shall be zero.

D. The mitigated No-Load Offer shall be the hourly fixed cost required to create a monotonically increasing mitigated Energy Offer Curve. It shall be calculated according to either of two methods:

(1) No-Load Fuel Approach

Mitigated No-Load Offer ($/hour) = No Load Fuel (mmBtu/hour) * Performance Factor * (No-Load VOM ($/mmBtu) + Total Fuel Related Cost ($/mmBtu)

(2) No-Load Cost Approach

Mitigated No-Load Offer ($/hour) =

(Heat Input at Minimum Economic Capacity Operating Limit (mmBtu) * Performance Factor *

(Total Fuel Related Cost ($/mmBtu) + No Load VOM ($/mmBtu))) –

(Incremental Cost up to Minimum Economic Capacity Operating Limit ($/MWh) * Minimum Economic Capacity Operating Limit (MW))

The mitigated No-Load Offer for Demand Response Resources utilizing Behind-The-Meter Generation shall adhere to the same definition above as a generating Resource. For Demand Response Resources utilizing load reduction, the mitigated No-Load Offer shall not exceed the quantifiable ongoing hourly costs associated with load reduction.

The mitigated No-Load Offer for Variable Energy Resources shall be zero.

E. The Market Participant shall submit all inputs used in calculating mitigated Start-Up and mitigated No-Load Offers to permit the Market Monitor to verify submitted offers. Required information includes: heat rate curves, descriptions of how spot fuel prices and/or contract prices are used to calculate fuel costs, variable fuel transportation and handling costs, emissions costs, and VOM. All cost data and cost calculation descriptions are subject to the review and approval of the SPP Market Monitoring Unit to ensure reasonableness and consistency across Market Participants. Information to be provided by the Market Participant shall include the following:

(1) For fuel costs, Market Participants shall provide the Market Monitoring Unit with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants shall report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants shall submit VOM costs reflecting short-run marginal costs, exclusive of fixed costs.

Further details associated with the development, validation and updating of these costs are included in Appendix G of the Market Protocols.

F. In all cases under this Section 3.3, cost data submitted for the development of mitigated offers, including ~~additional~~ opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.4 Mitigation Measures for Operating Reserve Offers

A mitigated offer for each Operating Reserve product shall be submitted daily by the Market Participant in accordance with the mitigated offer development guidelines in the Market Protocols. The mitigated Operating Reserve Offers may be updated up to 1100 hours on the day before the Operating Day for use in the Day-Ahead Market. In the case a Resource is not committed by the Day-Ahead

Market, the mitigated Operating Reserve Offers may be updated until the Day-Ahead RUC begins. For Resources committed by the Day-Ahead Market, the mitigated Operating Reserve Offers submitted as of 1100 hours on the day before the Operating Day will apply to the Day-Ahead Market on the day before the Operating Day and the RTBM on the Operating Day; for all other Resources, the mitigated Operating Reserve Offers submitted at the time the Day-Ahead RUC begins will apply to the RTBM on the Operating Day.

A. The offer conduct thresholds for each of the Operating Reserve products are as follows:

   (1) For Resources with local market power as described in Section 3.1(~~4~~3), the conduct threshold is a 10% increase above the mitigated offer for the applicable Operating Reserve Offer;

   (2) For all other Resources, the conduct threshold is a 25% increase above the mitigated offer for the applicable Operating Reserve Offer.

B. Any Operating Reserve Offer exceeding the applicable threshold, except offers below $10/MWh, will be deemed excessive. The Transmission Provider shall apply mitigation measures by replacing the Operating Reserve Offer with the applicable mitigated Operating Reserve Offer if:

   (1) The Resource's Operating Reserve Offer exceeds the applicable mitigated offer by the conduct threshold; and

   (2) The Resource has local market power as determined in Section 3.1; and

   (3) The Resource either:

      (a) Fails the Market Impact Test as described in Section 3.7, or

      (b) Has local market power as described in Section 3.1(~~4~~3).

C. The mitigated Spinning Reserve Offer shall be equal to zero for Resources other than combustion turbines, reciprocating engines and hydro Resources operating as a synchronous condenser. No known incremental costs are incurred for providing Spinning Reserves from other resource types.

Total mitigated Spinning Reserve Offer for combustion turbines, reciprocating engines and hydro Resources operating as a synchronous condenser shall not exceed any additional fuel related costs, maintenance costs and power consumption costs necessary for the Resource to be prepared for deployment of Spinning Reserve:

Mitigated Spinning Reserve Offer ($/MW) ≤
(Additional Fuel Cost($/Hr) + Additional Maintenance Cost ($/Hr) + Condensing Power Cost ($/Hr)) /
Spinning Reserve MW

The mitigated Supplemental Reserve Offer shall not exceed labor costs necessary for the Resource to be prepared for deployment of Supplemental Reserve:

Mitigated Supplemental Reserve Offer ($/MW) ≤
Additional Labor Cost($) / Average Supplemental Reserve MW

D. The mitigated Regulation-Up Offer shall not exceed the sum of the cost increase due to:

(1) the heat rate increase during non-steady state operation,

(2) increase in VOM due to non-steady state operation,

(3) uncompensated costs, as described in the Market Protocols:

Mitigated Regulation-Up Offer ($/MW) $<$

Cost Increase due to Heat Rate Increase during non-steady state operation ($/MW) +

Cost Increase in VOM ($/MW) + Uncompensated Cost ($/MW)

E. The mitigated Regulation-Down Offer shall not exceed the sum of the cost increase due to:

(1) the heat rate increase during non-steady state operation,

(2) increase in VOM due to non-steady state operation,

(3) uncompensated costs, as described in the Market Protocols:

Mitigated Regulation-Down Offer ($/MW) $<$

Cost Increase due to Heat Rate Increase during non-steady state operation ($/MW) +

Cost Increase in VOM ($/MW) + Uncompensated Cost ($/MW)

Further details associated with the development of the exact costs in the formulas above are included in the Market Protocols.

F. The Market Participant may include in the calculation of its mitigated Operating Reserve Offer an amount reflecting the Resource-specific opportunity costs if the Market Participant is able to demonstrate to the satisfaction of the SPP Market Monitoring Unit that such costs are legitimate and verifiable and not otherwise included in market outcomes. To the extent such costs include run-time restrictions, such run-time restrictions shall be updated as specified in the Market Protocols, with more frequent updating to occur the fewer hours that remain available, consistent with the Market Protocols. The formulas and instructions in the price forecast model for any such opportunity costs shall be determined by the SPP Market Monitoring Unit and published in the Market Protocols as part of the Mitigated Offer Development Guidelines, updated, as needed, by the SPP Market Monitoring Unit. Opportunity costs for mitigated Operating Reserve Offers shall not include Energy and Operating Reserve Markets revenues associated with forgone Energy or other types of Operating Reserve production to the extent that such costs are included in market outcomes.

G. All cost data and cost calculation descriptions are subject to the review and approval of the SPP Market Monitoring Unit to ensure reasonableness and consistency across Market Participants. The information will be sufficient for replication of the mitigated Operating Reserve Offers and shall include, among other data, the following information:

(1) For fuel costs, Market Participants shall provide the Market Monitoring Unit with an explanation of the Market Participants' fuel cost policy, indicating whether fuel purchases are subject to a fixed contract price and/or spot pricing and specifying the contract price and/or referenced spot market prices. Any included fuel transportation

and handling costs must be short-run marginal costs only, exclusive of fixed costs.

(2) For emissions costs, Market Participants shall report the emissions rate of each of their units and indicate the applicable emissions allowance cost.

(3) For VOM costs, Market Participants shall submit VOM costs, calculated in adherence with the Appendix G of the Market Protocols, reflecting short-run marginal costs, exclusive of fixed costs.

H. In all cases under this Section 3.4, cost data submitted for the development of mitigated offers, including ~~additional~~ opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.5 Validation of Mitigated Resource Offer Parameters

The Market Monitor shall review the costs included in each mitigated Resource Offer in order to ensure that the Market Participant has correctly applied the formulas and definitions in Sections 3.2, 3.3, 3.4 and the Market Protocols and that the level of the mitigated offer is otherwise acceptable. If the mitigated offer determined by the Market Monitor and the Market Participant differ, the mitigated offer calculated by the Market Monitor shall be used. If a Market Participant submits a dispute over its mitigated offer, the previously approved mitigated offer shall be used from the time the dispute is submitted until the dispute is resolved. The procedures for submitting and processing disputes related to mitigated offers shall be those specified in the Market Protocols. The Transmission Provider shall remedy mitigated offer disputes resolved in favor of the Market Participant by providing make whole payments, as necessary, to the Market Participant whose mitigated offer was improperly determined by the Market Monitor.

Each Market Participant is obligated to provide to the Market Monitor any cost data necessary to allow the Market Monitor to validate its mitigated Resource Offer.

The Market Monitor shall keep such data confidential, and all cost data submitted under this Section 3.5, including any opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff. The

Market Monitor shall develop and maintain on the Transmission Provider's website the mechanism and procedures to allow Market Participants to submit such cost data.

3.6 Additional Mitigation Measures for Resource Offer Parameters

The mitigation measures in this section apply to all Resource Offer parameters expressed in units other than dollars and will only apply in the presence of local market power as described in Section 3.1 of this Attachment AF. A reference level for each applicable Resource Offer parameter that reflects the physical capability of the Resource shall be determined prior to the start of the Energy and Operating Reserve Markets by one or both of the following methods: (i) the reference levels will be determined through consultation between the Market Participant and the Market Monitor; and/or (ii) the reference levels will be based on averages of Resource Offer parameters from similar Resources. This methodology for setting reference levels for Offer parameters shall apply to all Resources at the start of the Energy and Operating Reserve Markets and to all Resources that register subsequent to the start of the Energy and Operating Reserve Markets. The Transmission Provider's output forecast for a wind-powered Variable Energy Resource shall be used as the reference maximum output limit for the wind-powered Variable Energy Resource.

The following thresholds shall be used by the Transmission Provider to identify Resource Offers that may warrant mitigation and shall be determined with respect to the corresponding reference level:

Time-based Resource Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Resource Offer parameters.

Resource Offer parameters expressed in units other than time or dollars: One hundred percent (100%) increase for Resource Offer parameters that are minimum values, or a fifty percent (50%) decrease for Resource Offer parameters that are maximum values.

Minimum Economic Capacity Operating Limit threshold for Resources manually committed in accordance with Attachment AE, Sections 5.2.2(3), 6.1.2(3), and 6.1.2(4) of this Tariff: twenty-five percent (25%) increase.

In the case that a Resource Offer fails the thresholds described above, the Market Monitor shall determine the impact on prices or make whole payments. If an impact exceeds the LMP, MCP or make whole payment thresholds in Section 3.7, the Market Monitor will initiate a discussion with the Market Participant concerning an explanation of the parameter changes. The Market Monitor will inform the Transmission Provider of any potential issue. If the Transmission Provider, in consultation with the Market Monitor, concludes that the Market Participant has demonstrated the validity of the submitted Resource Offer parameter, no further action will be taken. If not, the Transmission Provider shall replace the Resource Offer parameter with the corresponding reference level. Mitigation measures will remain in place until such time that the Market Participant demonstrates the validity of the Resource Offer parameter or the Market Participant notifies the Market Monitor that the Resource Offer parameter has been changed to a value that is within the tolerance range as described above, and the Market Monitor has verified that this change has occurred. In the event that the Market Participant submits a dispute, the mitigation measure will remain in place until the resolution of the dispute.

In all cases under this Section 3.6, cost data submitted for the development of mitigated offers, including ~~additional~~ opportunity cost data, shall be subject to the confidentiality provisions set forth in Section 11 of Attachment AE of this Tariff.

3.7 Market Impact Test

The Transmission Provider will apply the following market impact test in the Day-Ahead Market, Day-Ahead RUC, Intra-Day RUC and Real-Time Balancing Market in the event the conditions described in Section 3.1 are satisfied:

After an initial market solution is computed with no mitigation measures in place, a second market solution, called the mitigated market solution, will be computed with the appropriate mitigation measures applied. If an LMP or MCP at a Settlement Location from the initial market solution exceeds the corresponding price from the mitigated market solution by the applicable impact test threshold, or a make whole payment for any Resource from the initial market solution exceeds the corresponding make whole payment from the mitigated market solution by make whole payment impact test threshold, then the mitigated market solution will be used for dispatch, commitment, and settlement purposes.

The impact test thresholds are as follows: At market start, the LMP impact threshold is five dollars ($5) per megawatt hour, the MCP impact threshold is five dollars ($5) per megawatt hour, and the make whole payment impact threshold is five dollars ($5) per megawatt hour. At the beginning of each six (6) month period after the market start, the LMP and MCP impact thresholds will be increased ten dollars ($10) per megawatt hour and the make whole payment impact threshold will be increased by ten dollars ($10) per megawatt hour unless the Market Monitor finds market behavior that warrants keeping the threshold constant for the next six (6) months. The periodic increases will continue until the LMP impact threshold is twenty-five dollars ($25) per megawatt hour, the MCP impact threshold is twenty-five dollars ($25) per megawatt hour, and the make whole payment impact threshold is twenty-five dollars ($25) per megawatt hour.

3.8 Mitigation Exceptions

A. The Market Monitor shall, as soon as practicable and if warranted in light of the information available to the Market Monitor, contact a Market Participant to request an explanation of its actions in cases when an impact threshold in Section 3.7 of this Attachment AF is exceeded and the Market Participant's offer exceeded the mitigated offer by more than the relevant conduct threshold, as specified in Section 3.2, 3.3, or 3.4 of this Attachment AF.

B. If a Market Participant anticipates submitting an offer that will exceed the mitigated offer by more than the relevant conduct threshold, it may contact the Market Monitor to provide an explanation of the changes in its offer. If the Market Participant's pre-offer explanation indicates to the Market Monitor that the questioned behavior is consistent with competitive behavior, the Transmission Provider will not impose mitigation with respect to that offer unless and until circumstances are deemed to warrant it, and the Transmission Provider or the Market Monitor so notifies the

Market Participant. In circumstances where, following a Market Participant's pre-offer explanation, both the conduct and impact thresholds are violated but no mitigation is imposed, the Market Monitor will record such instances and will report such instances to the Commission's Office of Enforcement, or its successor organization, every three months during the first year of Integrated Marketplace operations, and yearly thereafter. To the extent that the report contains sensitive data, the Market Monitor should include any such data in a non-public version of the report.

3.9 Sanctions for Noncompliance with the Day-Ahead Market Must Offer Requirement

A. In the case that a Market Participant is found to be noncompliant for an Asset Owner as determined by the conditions set forth in Section 2.11.1 of Attachment AE, the Market Participant shall be assessed a penalty for that Asset Owner by the Transmission Provider for each megawatt of withheld capacity below the 10% tolerance band. The penalty amount shall be equal to the Day-Ahead Market LMP associated with the withheld capacity.

B. The Market Monitor will monitor for, and report to the Commission's Office of Enforcement, or its successor organization, manipulative behavior associated with Day-Ahead Offers, including (but not limited to) monitoring load-serving Market Participants who do not offer enough net resource capacity to meet their maximum hourly Reported Load. The Market Monitor will also report to the Commission's Office of Enforcement or its successor organization any locational problems, such as deliverability issues, associated with load-serving Market Participants' offers in the Day-Ahead Market, any identified efforts by Market Participants to raise prices in the RTBM by limiting Day-Ahead Offers, and the effects of any such efforts upon make whole payments.

4. Market Monitoring

4.1 Markets to be Monitored

The Market Monitor will monitor Markets and Services. The Market Monitor will not monitor bilateral energy, transmission or capacity markets and services not administered, coordinated or facilitated by SPP, except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these unmonitored markets. Similarly, the Market Monitor will not monitor the energy, transmission or capacity markets and services in regions adjacent to the SPP Region except to assess the effect of these markets and services on Markets and Services, or the effects of Markets and Services on these adjacent markets.

4.2 Market Monitoring Scope

The Market Monitor will implement the Plan. The markets will require continuous monitoring by the Market Monitor. The Market Monitor will monitor Markets and Services by reviewing and analyzing market data and information including, but not limited to:

(a) Resource registration data;

(b) Resource Offer data including non-price related offer parameters required for use in either the Day-Ahead Market, Reliability Unit Commitment process and/or Real-Time Balancing Market;

(c) Demand Bids for the purchase of Energy in the Day-Ahead Market;

(d) Virtual Energy Bids for the purchase of Energy in the Day-Ahead Market and Virtual Energy Offers for the sale of Energy in the Day-Ahead Energy Market;

(e) Export Interchange Transaction Bids and Import Interchange Transaction Offers for the purchase and sale of Energy in the Day-Ahead Market and the Real-Time Balancing Market;

(f) Actual commitment and dispatch of Resources, including but not limited to Resource MW capability and output, MVAR capability and output, status, and outages;

(g) Locational Marginal Prices and zonal Market Clearing Prices at all Settlement Locations in or affecting any of Markets and Services;

(h) SPP Balancing Authority Area data, including but not limited to demand, area control error, Net Scheduled Interchange, actual total net interchange, and forecasts of operating reserves and peak demand;

(i) Conditions or events both inside and outside the SPP Balancing Authority Area affecting the supply and demand for, and the quantity and price of, products or services sold or to be sold in Markets and Services;

(j) Information regarding transmission services and rights, including the estimating and posting of Available Transfer Capability ("ATC") or Available Flowgate Capability ("AFC"), administration of this Tariff, the operation and maintenance of the transmission system, any auctions or other markets for transmission rights, and the reservation and scheduling of transmission service;

(k) Information regarding the nature and extent of transmission congestion in the region and, to the extent practicable, transmission congestion on any other system that affects Markets and Services, including but not limited to causes of, costs of and charges for transmission congestion, transmission facility loading, MVA capability, line status and outages;

(l) Settlement data for the Markets and Services;

(m) Any information regarding collusive or other anticompetitive or inefficient behavior in or affecting any of Markets and Services; and

(n) Generation resource operating cost data for estimating resource incremental cost, including fuel input costs, heat rates where applicable, start-up fuel requirements, environmental costs and variable operating and maintenance expenses.

(o) Logs of transmission service requests and Generation Interconnection Requests along with the disposition of each request and the explanation of any refused requests: and

(p) Any additional Resource and transmission facility outage data not otherwise provided for in this Section 4.2.

(q) GFA Carve Out Schedules.

4.2.1 Additional Market Monitor Duties

(a) In addition to the monitoring of market Data and Information, the Market Monitor may communicate with SPP Staff and Market Participants at any time for the purpose of monitoring and assessing market conditions.

(b) The Market Monitor shall evaluate the effectiveness of Markets and Services in signaling the need for investment in new generation, transmission or demand response infrastructure and report on its findings at least annually.

4.3 Referrals to the Commission

(a) The Market Monitor shall report suspected market violations, as defined in 18 CFR 35.28(b)(8), to FERC's Office of Enforcement (or its successor organization) staff in accordance with the FERC's reporting protocols for referrals by market monitors as specified in 18 C.F.R. § 35.28(g)(3)(iv) in a timely manner. Any such reports by the Market Monitor to FERC Staff shall be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release, unless such information and documents are already in the public domain.

4.4 Monitoring for Potential Integrated Marketplace Manipulation

The Market Monitor will monitor for potential instances of market manipulation in the Integrated Marketplace. Such actions or transactions that are without a legitimate business purpose and that are intended to or foreseeably could manipulate market prices (including actions resulting in excessive day-ahead clearing prices), market conditions, or market rules for electric energy or electric products are prohibited. As listed by the FERC, prohibited behavior includes (a) wash trades, (b) submission of false data, (c) actions to cause artificial congestion and (d) collusive acts. The Market Monitor will report any market manipulation in the Integrated Marketplace in a timely manner.

4.5 Monitoring for Potential Transmission Market Power Activities

The Market Monitor shall monitor Markets and Services for the exercise of transmission market power by reviewing and analyzing data and information related to the availability of transmission facilities that impact access to services under this Tariff. The Market Monitor will monitor for activities particularly with respect to the withholding of transmission facilities or transmission capacity, including activities such as but not limited to, the following:

(a) Physical withholding by Transmission Owners by providing improper information related to the availability of transmission, such as information related to the capability or other modeling data used by SPP for use in system operations;

(b) Economic withholding by Transmission Owners through the use of methods and data for estimating costs of interconnection and system upgrades that is not comparable for affiliates and non-affiliates;

(c) Unavailability of transmission facilities through planned and unplanned maintenance outages that routinely exceed historical baselines; and

(d) Withholding of transmission capacity through excess reservations that are not actually used.

The Market Monitor shall refer any perceived market design flaws and recommended Tariff language changes to the Commission's Office of Energy Market Regulation (or its successor office/organization). In addition, the Market Monitor shall refer any instance(s) of the suspected exercise of transmission market power directly to the Commission's Office of Enforcement (or its successor organization) utilizing the protocols for referrals to the Commission for suspected instances of the exercise of market power that may be part of a suspected market violation, such as manipulation, in accordance with 18 C.F.R. § 35.28(g)(3)(iv). Where appropriate, the Market Monitor shall also provide the FERC with an estimate of damages equal to (i) the effect on prices multiplied by

(ii) the affected energy produced by the Transmission/Generation Owner. The Market Monitor may also request the FERC to impose additional sanctions and penalties, which may consist of a fixed dollar amount based on each instance, or an amount up to (i) the effect on prices multiplied by (ii) the affected energy produced by Market Participants other than the Transmission/Generation Owner. All such referrals by the Market Monitor to FERC will be on a confidential basis, and all information and documents included in such reports will not be released to any other party except to the extent FERC directs or authorizes such release.

4.6 Monitoring for Market Participant Behavior Possibly Warranting Mitigation

The Market Monitor shall monitor Markets and Services for potential abuse associated with the following categories of Market Participant behavior: (1) economic withholding; (2) uneconomic production; (3) physical withholding; (4) uneconomic Virtual Bids and Virtual Offers; and (5) gaming related to GFA Carve Out Schedules. The mitigation measures for each of the behaviors identified in items (1) through (4) of this paragraph are described in Attachment AF. When the Market Monitor determines that there is sufficient credible information about a specific abusive practice, the issue will be referred to the Commission's Office of Enforcement (or its successor organization). Nothing in this section shall limit the Market Monitor's obligation to refer other suspected market violations to the Commission's Office of Enforcement, even where suspected behavior does not fall explicitly within the abovementioned categories or descriptions.

4.6.1 Uneconomic Production

The Market Monitor will monitor for cases where uneconomic production by a Resource causes congestion on transmission facilities or price separation between Reserve Zones that is not justified by reliability concerns. The provisions of this Section 4.6.1 shall not apply to Demand Response Resources.

(a) Potential uneconomic production will be indicated, and subject to further analysis as described in (b) of this Section 4.6.1, when the Resource has a positive Resource-to-Load Distribution Factor and any of the following conditions are met:

(1) a Resource is identified with an incremental energy offer price less than 50 percent of the applicable reference level; or

(2) a Resource is determined to be generating outside of its Operating Tolerance; or

(3) a Resource is subject to a time-based or other resource offer parameter (non-time and non-dollar based) that appears to facilitate production that is otherwise uneconomic~~offer parameters contribute to congestion on transmission facilities or price separation between Reserve Zones~~.

(b) For any Resource meeting the conditions described in (a) of this Section 4.6.1, the Market Monitor shall determine whether: (i) the MW impact from uneconomic production associated with such Resource is exacerbating the transmission congestion or binding a Reserve Zone; and (ii) the uneconomic production is not obviously justified by reliability or other operational concerns.

The Market Monitor will conduct evaluations as specified above and other related assessments to determine if there is sufficient credible information to justify referral to the Commission.

4.6.2 Monitoring for Virtual Energy Bids and Virtual Energy Offers

The Market Monitor will monitor the level of divergence between the Day-Ahead Market LMPs and the Real-Time Balancing Market LMPs. Section 4.6.3 defines the monitoring metric and thresholds to be used in determining the existence of excessive LMP divergence. In the case that there is excessive LMP divergence, the Market Monitor will determine if the LMP divergence is attributable to the Virtual Energy Bid and Virtual Energy Offer behavior of one or more Market Participants. If the Market Monitor identifies one or more Market Participants as having caused the excessive LMP divergence through Virtual Energy Bid and Virtual Energy Offer behavior, then the Transmission Provider shall impose mitigation measures described in Section 4.0 of Attachment AF.

4.6.3 Metric and Threshold Specifications

The Market Monitor will compute the hourly LMP deviation between the Day-Ahead Market and Real-Time Balancing Market using the following formula: $[(LMP_{RTBM} / LMP_{DA\ Market}) - 1] * 100$. The average hourly LMP deviation is computed over a rolling four (4) week period or any other period that the Market Monitor determines is appropriate. If the four (4) week rolling average is below negative ten percent (-10%) or in excess of ten percent (10%), then the divergence is considered excessive and additional analysis is required.

4.6.4 Physical Withholding

The Market Monitor will monitor for physical withholding of capacity from the Energy and Operating Reserve Markets, and unavailability of facilities. Physical withholding and unavailability of facilities may include:

(a) Declaring that a Resource has been derated, forced out of service or otherwise been made unavailable for technical reasons that are untrue or that cannot be verified;

(b) Refusing to provide offers or schedules for a Resource when it would otherwise have been in the economic interest to do so without market power;

(c) Operating a Resource in real-time to produce an output level that is less than the dispatch instruction;

(d) Derating a transmission facility for technical reasons that are not true or verifiable;

(e) Operating a transmission facility in a manner that is not economic and that causes a binding transmission constraint or binding reserve zone or local reliability issue; and

(f) Declaring that the capability of Resources to provide Energy or Operating Reserves is reduced for reasons that are not true or verifiable.

Market Participants will not be deemed to be physically withholding if they are following the directions of the SPP Balancing Authority, Reliability Coordinator, or applicable reliability standards. In addition, Market Participants will not be determined to have physically withheld if they are selling into another market at a higher price.

4.6.4.1 Thresholds for Identifying Physical Withholding of Resource Capacity

4.6.4.1.1 A Market Participant is deemed to be physically withholding capacity in a Frequently Constrained Area if all of the following conditions exist:

(a) One or more of the transmission constraints or Reserve Zone constraints that define the Frequently Constrained Area are binding; and

(b) The Market Participant controls or owns a Resource located in the Frequently Constrained Area that satisfies condition 4.6.4(a), 4.6.4(b), 4.6.4(c), or 4.6.4(f) of this Attachment AG.

4.6.4.1.2 A Market Participant is deemed to be physically withholding capacity in an area not designated as a Frequently Constrained Area if all of the following conditions exist:

(a) One or more transmission constraints are binding or a Reserve Zone is binding; and

(b) The Resource(s) meets either of the following criteria (1) or (2);

(1) Such Resource(s) satisfy one of the conditions in Sections 4.6.4(a), 4.6.4(b), or 4.6.4(f) of this Attachment AG and the total withheld capacity exceeds the lower of 5 percent of the total capability owned or controlled by the Market Participant or 200 MW; or

(2) Where the real-time output of each such Resource is less than the Resource's Operating Tolerance defined in Attachment AE, Section 6.4.1 of this Tariff and the Resource is not exempt from Uninstructed Resource Deviation under Attachment AE, Section 6.4.1.1 of this Tariff.

4.6.4.2 Thresholds for Screening of Potential Physical Withholding of Transmission Facilities

A transmission facility fails the physical withholding screen if either of the following conditions is met:

(a) The transmission facility satisfies a condition in Section 4.6.4(d) or 4.6.4(e) of this Attachment AG; or

(b) The Market Monitor identifies a pattern of scheduling outages resulting in increased market costs compared to an alternative and lower cost impact outage schedule.

4.6.4.3 Sanctions

The Market Monitor will record instances where Market Participants have failed the screens in Sections 4.6.4.1 and 4.6.4.2 of this

Attachment AG and notify the Commission's Office of Enforcement, or successor organization, of such behavior. In the event the Market Monitor determines there is credible evidence of a market violation, the Market Monitor shall make a referral to the Commission as described in Section 4.3 of this Attachment AG.