



California ISO
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Revised Straw Proposal

**Generated Bids and Outage
Reporting for Non-Resource
Specific
Resource Adequacy Resources**

April 5, 2010

Generated Bids and Outage Reporting for NRS-RA Resources

Prepared for Discussion on a Stakeholder Call – April 13, 2010

1 Introduction

The California Public Utilities Commission (CPUC) administers the Resource Adequacy (RA) program, which requires load-serving entities under its jurisdiction to procure sufficient capacity, termed RA capacity, to be available to the ISO to provide energy and reserves to serve load and maintain reliable operation of the ISO controlled grid. RA resources are required by Section 40.6 of the ISO Tariff to offer their RA capacity into the ISO markets.

If an RA resource fails to submit a bid into the market, the ISO will submit a generated bid for the RA capacity pursuant to ISO Tariff Section 40.6.8.¹ Specifically, for internal generating resources, and for resource-specific system resources, the ISO's Scheduling Infrastructure and Business Rules (SIBR) software will insert a generated bid for the RA capacity up to the MW RA capacity volume specified in the supplier's supply plan. Currently, the ISO is not inserting bids for non-resource-specific system resources with RA contracts (NRS-RA resources). For the November 2009 RA compliance month, there were 63 NRS-RA resources with a combined contracted resource adequacy capacity of 5,215 MWh.

Through this stakeholder effort, the ISO will work with market participants to address the issues associated with the implementing generated bids for NRS-RA resources.² The first issue is the question of what bid price to insert for automatically generated bids for these resources. Since they are not Resource-Specific System Resources as defined in the Tariff, there is no obvious cost basis for the price component of the default bid for NRS-RA resources.³

Second is the issue of resource availability and availability reporting. For internal RA resources, including resource-specific system resources with RA contracts, suppliers are required to submit outage notices through the Scheduling and Logging for the ISO of California (SLIC) software.

¹ According to Section 40.6.8 of the ISO Tariff, "the CAISO will determine if dispatchable Resource Adequacy Capacity from Resource Adequacy Resources has not been reflected in a Bid and will insert a generated Bid into the CAISO Day-Ahead Market for any dispatchable Resource Adequacy Capacity that is not reflected in a Bid into the CAISO Day-Ahead Market and for which the CAISO has not received notification of an outage."

² Paragraph 133 of FERC Docket No. ER09-1064-000 *Order Accepting in Part and Rejecting in Part Tariff Revisions Subject to Modification*, Issued June 26, 2009.

³ A non-resource specific system resource that does in fact have a designated generating resource that supplies the RA capacity has the option to become a resource-specific system resource.

Analysis of these two issues relative to NRS-RA resources has led to the need to address two additional questions. Accordingly, this Stakeholder process has expanded to address the question of how the ISO can most fairly and accurately consider “subset-of-hours” RA contracts, as well as the question of how best to apply the Standard Capacity Product (SCP) to these resources.

In this *Revised Straw Proposal*, the ISO is putting forward a policy design for procedures to insert generated bids for NRS-RA resources that fail to bid into the day-ahead market, and for unavailability reporting for those resources. Further, the ISO is providing additional information on the implications for NRS-RA resources under SCP. Additional analysis of the “subset-of-hours” Resource Adequacy issue is underway and will be included in an *Addendum* to this Straw Proposal to be posted as soon as possible.

2 Process and Timetable

The purpose of the present *Revised Straw Proposal* is to put forward a policy design that the ISO believes is a sound and equitable approach for resolving the issues described briefly above. The proposed timeline for the Stakeholder initiative is relatively compact in an effort to take the policy resolution to the CAISO Board of Governors in July, 2010. The table below summarizes the key steps in the stakeholder process on refinements to processes relative to NRS-RA resources, starting with the release of the *Issue Paper* and ending with submission of the ISO management proposal to the Board.

Please note that the schedule below is likely to change to accommodate the posting of the *Addendum* on the subset-of-hours issue. A revised schedule will be provided in a subsequent Market Notice.

December 18, 2009	<i>Issue Paper</i> Posted
December 30	Stakeholder conference call
January 8, 2010	Stakeholder comments due *
January 19	<i>Straw Proposal</i> Posted
January 27	Stakeholder conference call
February 3	Stakeholder comments due *
April 5	<i>Revised Straw Proposal</i> Posted
April 13	Stakeholder conference call
April 21	Stakeholder comments due *
May 3	<i>Draft Final Proposal</i> posted
May 10	Stakeholder conference call
May 19	Stakeholder comments due *
July 22-23	Presentation to ISO Board of Governors

* Please e-mail comments to Gillian Biedler at gbiedler@caiso.com

3 Key Criteria for Evaluating Potential Solutions

This section provides some key evaluation criteria the ISO believes are important. Stakeholders are invited to identify other criteria that should be considered in assessing potential solutions.

- The policy that is developed should increase the ISO's ability to reliably operate the grid given its lack of visibility into the generation source(s) behind an NRS-RA resource.
- The policy that is developed should provide consistent rules and effective incentives for suppliers of Resource Adequacy capacity with must-offer obligations to fully comply with Section 40 of the ISO tariff.
- Policy and design options should be evaluated for implementation feasibility and costs for both the ISO stakeholder and for the ISO.

4 Description of the Issues

Resource Adequacy resources must submit Economic Bids or Self-Schedules for their Resource Adequacy Capacity into the IFM and RUC as required by Tariff Section 40.6.1(1). Furthermore, Tariff Section 40.6.2 states that:

Resource Adequacy Resources that have been committed by the CAISO in the Day-Ahead Market or the RUC for part of their Resource Adequacy Capacity or have submitted a Self-Schedule for part of their Resource Adequacy Capacity must remain available to the CAISO through Real-Time, including capacity reflected in the Day-Ahead Schedule and any remaining capacity, for the scheduled and non-scheduled portions of their Resource Adequacy Capacity.

Finally, "Resource Adequacy Resources must participate in the RUC to the extent that the resource has available Resource Adequacy Capacity in the IFM," as required by Tariff Section 40.6.1(5).⁴

Currently, the ISO is not calculating or inserting generated bids on behalf of NRS-RA resources that fail to bid into the Day Ahead market. In its June 26, 2009 Order on the Resource Adequacy SCP filing, the Federal Energy Regulatory Commission (Commission) stated that "the CAISO should be submitting generated bids for non-bidding resource adequacy capacity at the interties if it is not already doing so, however, a tariff change is not required to make this clear. To the extent that the CAISO has not been submitting such

⁴ Additional provisions in ISO Tariff Section 40.6.5 are applicable to NRS-RA resources.

generated bids, the Commission directs the CAISO to do so as soon as possible.”⁵ Non-resource specific system resources that supply RA capacity pose four important policy questions that must be resolved in implementing procedures for inserting generated bids for these resources when they fail to offer their capacity into the day-ahead market. These questions concern: (1) the bid price associated with a generated bid, (2) the rules and procedures regarding availability reporting, (3) considerations with respect to SCP, and (4) adaptations required for subset-of-hours RA contracts.

Determination of a Generated Bid

ISO Tariff Section 40.6.8 states that the ISO will insert a generated bid on behalf of Resource Adequacy resources with must-offer obligations that fail to bid into the market.⁶ Furthermore, if such a resource does not bid the full RA MW quantity, the ISO is authorized to extend the resource’s highest bid segment out to the MW quantity specified by the Scheduling Coordinator in the resource’s supply plan.

In the event that a Scheduling Coordinator for a resource-specific RA resource with a must-offer obligation does not offer the resource into the market, a generated bid is calculated based on resource-specific operating and fuel costs of the generating unit and supplied to the market optimization on the SC’s behalf. Since NRS-RA resources are not resource-specific system resources within the Tariff definition, basing their generated cost calculation methodology on resource-specific cost-based factors is not feasible. In short, there is no cost basis for these firm energy imports. The ISO has looked to the non-cost based methodologies used for calculating default energy bids (DEB) for options that could be extended to generated bids for NRS-RA resources.

Reporting of Unavailability

In the event that an internal RA resource or a resource-specific system resource is not available, it must submit a SLIC outage ticket. The receipt of a SLIC outage ticket informs the ISO that the RA capacity will not be available, so that when the capacity is not offered into the ISO markets, the ISO market software will not use generated bids to implement the must-offer obligation for the capacity.⁷ Although NRS-RA resources are not resource-specific, as per the ISO Tariff definition, in practice they may be tied to a particular generating unit or group of units, and in some cases are specific to only a portion of a resource. In light of this, the *Revised Straw Proposal* seeks to provide an equitable definition of circumstances in which an NRS-RA resource would be unavailable to meet its RA must-offer obligation.

⁵ Please see footnote 2 above for citation.

⁶ Note that, unlike resource-specific resources, non-resource specific resources are not eligible to seek use-limited resource (ULR) status. Since NRS-RA resources are by definition not limited to a single generating unit, it would be inconsistent to allow such resources to seek use-limited status due to unit-specific characteristics. Resources that are in fact use-limited due to unit-specific characteristics should seek to become resource-specific system resources (RSSR) so that they may in turn apply for use-limited status.

⁷ This requirement is stated in ISO Tariff Section 40.6.8.

Subset-of-Hours RA Contracts

This Stakeholder process has shed a new light on the fact that some NRS-RA resources, and in fact some internal generating resources, have “subset-of-hours” arrangements, such as 6 days by 16 hours each day. The ISO is undertaking a parallel analysis of the issues associated with this current practice. An *Addendum* to this *Revised Straw Proposal* in which the ISO will address the issue is forthcoming.

Considerations for Standard Capacity Product

Currently, SCP availability of RA resources that are internal to the ISO and resource-specific RA system resources are calculated based on their level of forced outages and temperature related ambient derates in a given month.⁸ Unlike these resources, the availability of NRS-RA resources cannot be measured based on outage information and instead is measured by their bidding behavior. That is, the extent to which an NRS-RA resource bids its RA capacity into the market indicates its availability.⁹ Once the ISO generates and inserts bids on behalf of NRS-RA resources that fail to bid into the market, this measure of availability will no longer be meaningful and another approach must be developed. Given that new availability reporting rules for these types of resources will be developed, the rules for measuring SCP availability for these types of resources will need to be re-evaluated. Note that this change to SCP for NRS-RA will not impact other SCP provisions, for instance the NRS-RA resources’ eligibility to use unit substitution.¹⁰

5 Stakeholder Feedback

On January 19, 2010 the ISO posted a Straw Proposal on the initiative to develop generated bid calculation methodologies and unavailability reporting for NRS-RA resources. Summarized briefly below is the feedback on that *Straw Proposal* submitted to the ISO on February 5.

Generated Bids

Stakeholders expressed round support for the LMP-based bid calculation option and for the negotiated bid option. The LMP-based option requires a “back-up” option for use in the case that there aren’t sufficient data to calculate the LMP-based option. Stakeholders indicated that having to negotiate a back-up bid, potentially on a monthly basis, is onerous.

⁸ ISO Tariff Section 40.9.4.2 states that “A Resource Adequacy Resource will be determined to be less than one hundred percent (100%) available in a given month if it has any Forced Outages, non-ambient de-rates, or temperature-related ambient de-rates that impact the availability of its designated Resource Adequacy Capacity during the Availability Assessment Hours of that month.”

⁹ ISO Tariff Section 40.9.7.2 describes the current availability calculation for NRS-RA resources.

¹⁰ ISO Tariff Section 40.9.4.2.1(2) describes this process.

Rather, Stakeholders expressed the preference that the ISO have a price-taker option. In response to this feedback, and to the request that the price-taker option cover GMC costs in the event that the resource is scheduled, the ISO has included a modified price-taker bid option in this proposal.

Unavailability Reporting

The ISO received mixed Stakeholder support of the proposal on the circumstances under which an NRS-RA resource can declare its unavailability. While some Stakeholders agreed with the ISO's initial proposal that only extraordinary transmission circumstances would be a deterrent to bidding in the full RA capacity, others argued that unavailability for these resources should be more broadly defined. Ultimately, a successful implementation of unavailability reporting for NRS-RA resources is one that facilitates accurate self-reporting.

6 Revised Straw Proposal for Addressing the Issues

6.1 Generated Bid Calculation Methodology

For an NRS-RA resource that submits a bid into the IFM/RUC but not to the full MW capacity specified in the resource's Supply Plan submitted by its Scheduling Coordinator, the ISO recommended in the *Issue Paper* that the last segment of the resource's energy bid curve be extended out to the full RA MWh quantity. This is consistent with the practice for resource-specific RA resources with must-offer obligations. This met with round support from Stakeholders, and the ISO maintains this recommendation as part of this *Revised Straw Proposal*.

The ISO identified three options for generated bids to be inserted on behalf of NRS-RA resources that fail to bid into the IFM. First, the ISO could insert a price-taker bid on behalf of NRS-RAs that don't offer into the market. As another option, the ISO could employ the LMP-based calculation used for default energy bids as described in Tariff Section 39.7.1.2.¹¹ A third option is to enable an NRS-RA resource to submit for negotiation a bid to be used on its behalf in the event that it doesn't offer its RA capacity into the market as required. The negotiated option for NRS-RA resource generated bids would parallel that for calculating Default Energy Bids for, which is described in ISO Tariff Section 39.7.1.3.

The ISO proposes that NRS-RA resources be able to choose between the LMP-based bid option, the negotiated bid option, and the price-taker option. If the LMP-based bid option is elected, the resource must either submit a negotiated bid value or elect the price-taker bid to be used as a "back-up" in the event that the feasibility test fails for the LMP-based bid option due to lack of sufficient data. Stakeholders expressed some concerns about using 90 days of data to calculate the LMP-based option, stating that energy prices vary greatly over that period, and that the LMP-based generated bid can therefore be out of line with contemporary market conditions. Allowing for a choice between the other two options

¹¹ Two examples illustrating how the LMP-based approach would work are provided in Appendix A of this Revised Straw Proposal.

proposed here will provide an alternative to the LMP-based bid option for market participants unwilling to accept this risk.

Although the price-taker bid option was originally conceived of as a \$0/MWh bid, one stakeholder pointed out that a bid approximating the grid management charge (GMC) that would be assessed if the bid cleared would be a more equitable price-taker bid design. The ISO agrees that this is reasonable and has done an analysis of what the bid level would be to offset GMC charges.

Calculating a *per*-MWh value for GMC is problematic as our billing determinants are not based upon gross MWh scheduled. The market-usage fee for forward energy is based upon net MWh cleared in the day-ahead market.¹² Since the extent to which an import schedule would be offset by an export schedule is unknown, we assume for this purpose that the import schedule would not be offset by other transactions and would therefore be subject to the full rate of \$0.2247/MWh. Additionally, we converted the forward scheduling charge of \$1.7078 to a *per*-MWh value. Since April 1, 2009, 98% of the day-ahead energy schedules for NRS-RA resources have been greater than 18.70 MWh.¹³ In order to make sure that the generated bid is high enough to cover the forward scheduling charge, we used this value to divide up the forward scheduling charge into a hypothetical *per*-MWh charge of \$0.0913/MWh. The sum of these two values is \$0.3160/MWh and is the proposed value for the price-taker generated bid option. This is the ISO's best estimate at this time to calculate a \$/MWh value for GMC for imports. There is currently a stakeholder process underway in which the current structure of the ISO GMC charges will be reevaluated in light of the new market design. As a result, the structure of the GMC charges may change in which case we will need to revisit this estimate.

6.2 Outage Policies for NRS-RA Resources

[Insert summary of FERC orders on this topic.] Non-resource specific system resources that supply RA capacity have, in theory, the flexibility to provide that capacity from a variety of sources, and would therefore not experience outages. In practice, however, there are varied circumstances that might lead to unavailability or partial availability of these resources. Examples of these circumstances are provided in comments to FERC on the ISO's filing on Standard Capacity Product (SCP).¹⁴ In response to these comments, FERC determined that NRS-RA resources "may be subject to transmission outages at the interties, or constrained

¹² As stated in the ISO Tariff Appendix K, Schedule 1, Part B, "Rates for Forward Scheduling and Market Usage – Forward Energy can be adjusted if estimated revenue collections for that component change by more than five percent or \$1M whichever is greater." This adjustment can occur on a quarterly basis. In the event that the inputs to the above-described methodology for determining the price-taker bid are revised, the calculation will be revised to reflect those revisions.

¹³ The MWh quantity of the NRS-RA DA energy schedule above which 98% of schedule quantities lie is based on a year of data. If, as noted in the footnote above, the other inputs to the price-taker bid calculation change, the ISO will also re-run the past year's data to update the reference schedule quantity.

¹⁴ FERC Docket No. ER09-1064-000

generation and transmission resources beyond such ties which could prevent imports from meeting the 100 percent [SCP] availability standard.”¹⁵ Thus for the purposes of Resource Adequacy and SCP, it is necessary to enable NRS-RA resources a mechanism by which they can inform the ISO of the resource’s unavailability.

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NRS-RA resources that are unavailable – for any reason – need a mechanism by which to inform the ISO of that unavailability. This is necessary to ensure that NRS-RA resources are paid only for RA capacity they are available to provide. The ISO accordingly proposes that all NRS-RA resources be required to submit notices of unavailability through SLIC.

As noted in the *Issue Paper* on this initiative, the outage reporting requirements for internal generating units can be adapted for outages that impact the availability of system resources. Internal generating resources and resource-specific system resources are required to report forced outages within 60 minutes as well as provide a follow-up explanation of the outage within two working days. ISO Tariff Section 9.3.10.6 summarizes the requirement for this follow-up explanation as: “the Operator shall provide to the CAISO an explanation of the forced outage and the estimated return time” within a specific timeframe as well as an explanation that includes “a description of the equipment failure or cause and a description of all remedial actions taken by the Operator.”

Thus, in the event of an outage of the generating unit or generating units behind a NRS-RA resource, or in the event of a transmission outage that interfered with transmission to the CAISO, the SC for the NRS-RA resource would submit a SLIC ticket to prevent the CAISO from generating bids for the capacity affected by the outage. In addition, to ensure that the SC explicitly documents the reason that the RA capacity is not available, we propose that the requirements of CAISO Tariff Section 9.3.10.6 be amended to extend to NRS-RA resources. For example, the Tariff language could be adapted as follows:

- The Scheduling Coordinator should provide a description of the outage affecting the generating unit or units that were intended to be the source of energy for the NRS-RA and provide an estimated time that the generating unit or units will become available again; and
- The Scheduling Coordinator should provide a description of any transmission curtailments or transmission outages external to the ISO with associated BAA that have led to the resource’s unavailability.

In addition, the ISO proposes that, just as for resource-specific system resources, NRS-RA resources’ Scheduling Coordinators be required to provide the ISO with additional information as requested. As it does for resource-specific system resources, the ISO would have the authority to submit a report to the Commission regarding circumstances in which it determines that a forced outage may have been the result of gaming or other “questionable behavior” by the Scheduling Coordinator.¹⁶

¹⁵ FERC Docket No. ER09-1064-000, Paragraph 27

¹⁶ These requirements parallel those for resource-specific resources as laid out in ISO Tariff Section 9.3.10.6.

In order for the supplier to report an NRS-RA resource's unavailability to the ISO, the ISO will add the resource identification numbers for those resources to the SLIC system.

An NRS-RA resource has an obligation to offer its RA capacity into the IFM. Under this proposal, if the resource submits notice of its unavailability through the SLIC mechanism in advance of the close of the IFM, then a generated bid will not be inserted for the resource in HASP for the 24 hours of that Trade Date. The unavailability will be considered in the calculation of the SCP availability metric. If an NRS-RA resource receives a schedule out of the IFM, and then experiences a change in circumstances that leads to its unavailability after the close of the IFM, the SLIC system will not inform the market optimization of that unavailability. As a result, the NRS-RA resource will need to be re-bid into the HASP market if the unavailability occurs between the IFM and HASP. If the unavailability takes effect after the HASP market closes, then the fact that the NRS-RA resource's schedule is not tagged will serve as notice of its unavailability. In other words, submitting an outage after the close of the IFM does not eliminate exposure to price risk between the Day Ahead and Real Time prices.

6.3 Considerations for Standard Capacity Product

Under the effective Tariff provisions for SCP, the availability of an NRS-RA resource is measured by the amount of the RA capacity for which the resource offers bids into the ISO markets, in accordance with the must-offer obligations specified in Section 40 of the ISO Tariff, in each of the designated SCP availability assessment hours. Upon implementation of rules and procedures for inserting generated bids for NRS-RA resources when they fail to submit bids and for enabling such resources to utilize SLIC to report outages and de-rates to the ISO, the ISO must revise the approach for calculating monthly availability under the SCP for these resources to be consistent with the approach applied to internal RA resources.

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The ISO proposes to modify the current availability standard and calculation of availability for NRS-RA resources to be consistent with the approach used for other RA resources under SCP. That is, the ISO is recommending that the monthly availability of NRS-RA resources be the sum of the hourly available RA capacity of the resource in the availability assessment hours of the month divided by the sum of the hourly RA capacity for those hours. This is the same calculation used for internal generators with RA obligations. A resource will be determined to be less than 100% available in a given month if it has SLIC-reported outages or derates that impact the availability of the resource during the availability assessment hours of that month. The ISO proposes to apply the same availability standard to NRS-RA resources as is applied to internal RA capacity until such time that sufficient data are available to tailor an availability standard specifically for NRS-RA resources.¹⁷

Currently, the availability charges and payments for NRS-RA resources are maintained separately from those of other RA resources because of the difference in assessing

¹⁷ FERC Docket No ER09-1064-003, Compliance Filing, Section 4A

availability.¹⁸ The ISO proposes to maintain separate “buckets” of SCP revenues for internal generators and NRS-RA resources. This proposal is made to avoid inequitable situations in which the more flexible NRS-RA resources which likely have a greater rate of availability, could earn SCP availability payments out of a bucket shared with inherently less flexible resources.

7 Conclusion

The ISO appreciates stakeholder comments and discussion on the issues raised within this paper. An *Addendum* to this *Revised Straw Proposal* is forthcoming. Following posting of that analysis, the ISO will hold a conference call to discuss all the elements of this initiative. After that discussion, written comments will be requested. In the interim, Stakeholder comments, questions and concerns may be directed to Gillian Biedler at gbiedler@caiso.com, or to (916) 608-7203.

¹⁸ The accounting for availability charges and payments is described in ISO Tariff Section 40.9.7 “This category will utilize the same Availability Standard determined for other Resource Adequacy Resource in accordance with Section 40.9.4.1, but will have its own availability calculations, as well as a separate account for settling Non-Availability Charges and Availability Incentive Payments.”

Appendix A: Two examples of the LMP-based option for generated bids

Example 1: NRS-RA Resource A

The Scheduling Coordinator for Resource A has submitted a Supply Plan for that resource that indicates its capacity will be available over one intertie point. The table below shows all eight dispatches that occurred at the tie point in the last ninety days. The dispatches are sorted by LMP from lowest to highest. The lowest quartile is comprised of the two dispatches around which the box is drawn.

Lowest Quartile Dispatch

Dispatch (MWh)	LMP (\$/MWh)
500	7
150	8
100	10
275	12
120	15
75	17
230	22
300	25

To calculate the LMP-based generated bid, take the average of the LMPs weighted by their associated MWh dispatches. For this example, the LMP-based generated bid would be calculated as

$$\frac{7 \text{ \$/MWh} * 500 \text{ MWh} + 8 \text{ \$/MWh} * 150 \text{ MWh}}{500 \text{ MWh} + 150 \text{ MWh}} = \$7.23 \text{ per MWh.}$$

So if Resource A fails to bid into the market, a generated bid of \$7.23 *per* MWh would be inserted for it up to the MW capacity it is obligated to offer into the market as indicated in its Supply Plan.

Example 2: NRS-RA Resource B

The calculation of the LMP-based generated bid for an NRS-RA resource can be complicated by the fact that a Scheduling Coordinator is able to submit a Supply Plan for an NRS-RA resource that specifies capacity quantities to be available at each of multiple tie points. In such cases the supplier is obligated to offer the specified quantity at each tie point, and therefore it is necessary to create an LMP-based generated bid for each of the specified interties. In this second example, we'll calculate the LMP-based generated bids for NRS-RA Resource B for which the Supply Plan indicates its capacity will be available over four intertie points – A, B, C, and D. For this example, the Scheduling Coordinator's Supply

Plan for meeting its obligation to provide 600 MW of capacity is summarized in the table below:

Supply Plan – 600 MW RA Capacity

Tie Point	MW
A	150
B	150
C	200
D	100

The following table captures the lowest quartile of LMPs received (as well as the associated dispatched MWh quantities for the particular resource) for all the dispatches of the RA resource over those four tie points during the past ninety days for a particular market and for a particular time period (either Peak or Off-Peak). The *per* MWh prices to the right of the table below are calculated by taking an average of the prices weighted by the MWh volumes dispatched at those prices just as in the above example.

Lowest Quartile Dispatch by Tie Point

	Dispatch (MWh)	LMP (\$/MWh)	
Tie Point A	150	\$5	} \$9.65
	140	\$10	
	275	\$12	
Tie Point B	300	\$25	} \$28.67
	350	\$30	
	100	\$35	
Tie Point C	75	\$18	} \$22.62
	50	\$20	
	200	\$25	
Tie Point D	250	\$14	} \$16.57
	80	\$16	
	200	\$20	

For Resource B, failure to bid in at any one of the four tie points would result in the applicable LMP-based generated bid at that location. For example, if Resource B was not bid in at Tie Point A as *per* its Supply Plan, a bid for 150 MWh at \$9.65/MWh would be inserted on its behalf even if 150 MW was bid in at Tie Point C. Failure to deliver at Tie Point A would result in Resource B having to buy back that power at Tie Point B’s HASP price.