

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

MMC Energy, Inc.)	
Complainant,)	
)	
v.)	Docket No. EL08-46-000
)	
California Independent System)	
Operator Corporation)	
Respondent.)	

**MOTION FOR PARTIAL SUMMARY DISPOSITION
AND ANSWER OF THE
CALIFORNIA INDEPENDENT OPERATOR CORPORATION
TO THE COMPLAINT OF MMC ENERGY, INC.**

In accordance with the Commission’s Rules of Practice and Procedure, 18 C.F.R. §§385.206(f), 385.212, 385.213, and 385.217, the California Independent System Operator Corporation (“CAISO”) respectfully submits this Motion for Summary Disposition and Answer to the Complaint of MMC Energy, Inc. (“MMC”) filed with the Commission on March 13, 2008 in the captioned docket (hereinafter the “Complaint”).

At issue in this case is whether MMC is operating its aggregated generating units in a manner that provides the Spinning Reserve product required by the CAISO’s Tariff.¹ Setting aside the fundamental legal issue of tariff interpretation raised by the Complaint, the outcome of this proceeding presents a challenge to the Commission’s obligation to ensure the reliability of the bulk power system, a responsibility recently reinforced by Congress in the Energy Policy Act of 2005. MMC’s Complaint urges the Commission to take action that would both sanction a distorted reading of the CAISO Tariff and undermine a NERC Regional Reliability Standard for

¹ Capitalized terms, unless otherwise defined, are used in accordance with the definitions contained in the Master Definition Supplement, Appendix A to the CAISO Tariff. For purposes of this Motion and Answer, the term “CAISO Tariff” refers to the CAISO’s currently effective Tariff.

the Western Interconnection. The reliability interests at stake here require rejection of MMC's Complaint.

The CAISO was created to "ensure efficient use and reliable operation of the transmission grid."² Indeed, the CAISO must meet the mandatory reliability standards that have been developed by NERC and approved by the Commission under the Energy Policy Act of 2005. The CAISO's actions to enforce the definition of Spinning Reserve are necessary to comply with the reliability standards. MMC asks the Commission to sanction as "Spinning Reserve" a product that fails to satisfy the CAISO's clear Tariff requirements for Spinning Reserve.³ Permitting MMC to provide a service that is less than what the Tariff demands undermines the CAISO's ability to ensure reliability by eroding the CAISO's supply of Spinning Reserve capacity that is synchronized and immediately responsive to sudden disturbances in the grid.

In support of its Motion for Summary Disposition and Answer, the CAISO states as follows.

I. COMMUNICATIONS

The CAISO requests that all communications and notices concerning this proceeding be provided to:

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² Cal. Pub. Util. Code § 345 (2004).

³ MMC has aggregated generating units at each of its three facilities such that a small 20 kW generator is aggregated with a CT unit under one resource ID number. When MMC uses these aggregations to bid Spinning Reserve capacity, only the 20 kW generator is on-line and synchronized with the Grid during the entire period of time for which MMC was awarded Spinning Reserve.

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II. MOTION FOR PARTIAL SUMMARY DISPOSITION

The CAISO hereby respectfully moves for summary disposition of MMC’s Complaint. At its core, this case is one of tariff interpretation and one that can be disposed of based on the plain language of the CAISO Tariff. Specifically, because the CAISO Tariff defines “Spinning Reserve” as the “portion of unloaded synchronized capacity that is immediately responsive to system frequency,”⁴ the CAISO submits that the Commission must find that the portion of MMC’s capacity that is off-line and not synchronized does not qualify as Spinning Reserve under the CAISO Tariff. Additionally, the Commission should find that both the applicable Commission-approved NERC Regional Reliability Standard for Operating Reserves requirements for the Western Interconnection developed by the Western Electricity Coordinating Council (“WECC”) and section 205 of the Federal Power Act (“FPA”) preclude, as a matter of law, MMC’s request that the Commission direct the CAISO to “grandfather MMC facilities.”⁵ As the CAISO explains below, these two straightforward findings will dispose of the principal legal issues in MMC’s complaint.

A. Issues for Summary Disposition

Rule 217 provides that if “there is no genuine issue of fact material to the decision of a proceeding, the decisional authority may summarily dispose of all or part of the proceeding.”⁶ Underneath MMC’s rhetoric, the central issue presented by MMC’s Complaint is a legal issue –

⁴ California Independent System Operator Corporation Tariff (“CAISO Tariff” or “Tariff”), Appendix A.

⁵ Complaint at 5.

⁶ 18 C.F.R. § 385.217(b) (2007).

whether the term Spinning Reserve, as used in the CAISO Tariff, requires all of the capacity being bid for Spinning Reserve to be synchronized. MMC seeks an order directing the CAISO to allow the full capacity of MMC's aggregated units to be bid into the Spinning Reserve market "without precondition"⁷ despite the fact only a tiny fraction of that capacity would be synchronized and immediately responsive to frequency. MMC's request directly contravenes the CAISO Tariff. The plain language of the CAISO Tariff requires that capacity be synchronized and immediately responsive to system frequency to qualify as Spinning Reserve and thus MMC may not claim as Spinning Reserve the portion of the capacity from its aggregated units that is off-line and not synchronized. This is a question of law requiring no factual development and is thus ideally suited for summary disposition.⁸

MMC also seeks an order directing the CAISO to "grandfather the MMC facilities if the CAISO changes its spinning reserve Tariff or policies."⁹ Essentially, MMC is asking for the right to continue in perpetuity its highly profitable, but unlawful practice of bidding off-line, unsynchronized capacity into the Spinning Reserve market, while other CAISO market participants are forbidden from doing so. Reliability concerns demand that the Commission not authorize MMC's practice. Moreover, the Commission lacks the legal authority to do so under the Filed Rate Doctrine. This issue is also a legal issue and, thus, may be summarily disposed of by the Commission.

Summary disposition of these two issues would address the crux of MMC's Complaint and greatly simplify the proceeding. Insofar as the CAISO understands MMC's Complaint, the only issues that will remain after summary disposition are: (1) MMC's request that the CAISO

⁷ Complaint at 5.

⁸ See *KGen Hinds LLC*, 117 FERC ¶ 63,004, at P 44 (2006) (stating that, in granting summary disposition on an issue, "the Commission must find that a hearing is unnecessary and would not affect the ultimate disposition of an issue because there are no material facts in dispute or because the facts presented by the proponent have been accepted in reaching the decision.").

⁹ Complaint at 5.

pay MMC some \$522,188 in Spinning Reserve revenue and (2) MMC's entirely unsubstantiated allegation that the CAISO is discriminating against MMC by requiring it to bid only synchronized capacity into the Spinning Reserve market as required by the Tariff. As the CAISO explains in its Answer, the Commission may address the merits of these issues in an order on the Complaint, based solely on the parties' pleadings and the law.

B. The CAISO Tariff Requires Spinning Reserve Capacity to Be Synchronized and Immediately Responsive to System Frequency

The Commission has long held that “[i]n construing what a tariff means, certain general principles apply. One looks first to the four corners of the entire tariff, considers the entire instrument as a whole, giving effect so far as possible to every word, clause and sentence, and attributes to the words used the meaning which is generally used, understood, and accepted.”¹⁰

The CAISO Tariff defines “Spinning Reserve” as:

The portion of unloaded synchronized generating capacity that is immediately responsive to system frequency and that is capable of being loaded in ten minutes, and that is capable of running for at least two hours.¹¹

The definition is clear that Spinning Reserve is a portion of a generating unit's capacity that is:

(1) unloaded; (2) synchronized to the grid; (3) immediately responsive to system frequency;¹² (4)

¹⁰ *Midwest Independent Transmission System Operator, Inc.*, 115 FERC ¶ 61,108, at P 22 (2006) (quoting *Columbia Gas Transmission Corp.*, 27 FERC ¶ 61,089, at p. 61,166 (1984)); see also *New York Independent System Operator v. Astoria Energy LLC*, 118 FERC ¶ 61,216, at P 34 (2007) (“[w]hen presented with a dispute concerning the interpretation of a tariff or contract, the Commission looks first to the tariff or contract itself, and only if it cannot discern the meaning of the contract or tariff from the language of the contract or tariff, will it look to extrinsic evidence.”) (quoting *Nicole Gas Production Ltd.*, 105 FERC ¶ 61,371, at P 10 (2003)).

¹¹ CAISO Tariff, Appendix A, Master Definitions Supplement, Original Sheet No. 528A (emphasis added). In 1997, the Commission required the CAISO to add the phrase “immediately responsive to system frequency” to its definition of Spinning Reserve in its Tariff at the suggestion of the Bonneville Power Authority, which sought to make the CAISO definition of Spinning Reserve consistent with that of the Western Systems Coordinating Council, the predecessor to WECC. See *Pacific Gas & Electric Co.*, 81 FERC ¶ 61,122 (1997). CAISO's definition of Spinning Reserve has remained unchanged since then.

¹² The requirement that Spinning Reserve be frequency responsive also appears in the ancillary services availability standard, which provides:

capable of being loaded in ten minutes; and (5) capable of running for two hours. Equally clear, these Spinning Reserve requirements are imposed *on a capacity basis, not a resource basis*. The definition limits Spinning Reserve to the “portion” of “capacity” that meets the list of requirements, clearly contemplating that a generation resource might have some capacity that qualifies and some that does not as would be the case where a resource is comprised of two aggregated units. The Tariff definition thus forecloses the nonsensical possibility that where an aggregated resource has some capacity that is unloaded and some loaded, or some immediately responsive to system frequency and some not, that the resource’s entire capacity qualifies as Spinning Reserve.

But that is the exact reading MMC asks the Commission to impose. MMC makes clear in its Complaint that the bulk of the capacity it wants to qualify as Spinning Reserve is off-line, not synchronized, and not immediately responsive to system frequency:

All three of the MMC generating facilities, MMC Escondido, MMC Chula Vista and MMC Mid-Sun, are configured as aggregated generating facilities. Each of these MMC generating facilities are comprised of two generating units, one larger gas fired combustion turbine [“CT Unit”], and one smaller generator of less than 1 MW. Under normal operating conditions, the smaller unit in the aggregation remains spinning, unloaded and synchronized to the CAISO controlled transmission system during all times in which the aggregated facility is bid into the spinning reserve market. The smaller unit at each generating facility provides telemetry to the CAISO operating system and allows CAISO dispatch personnel to view the combined aggregated facility as synchronized to the transmission system. The large unit at each generating facility is brought on-line if the plant is dispatched by the CAISO to provide supplementary energy. . . . The larger unit in each of the aggregated MMC facilities is a quick-start, natural gas-fired combustion turbine, capable of ramping up to its full certified spinning reserve capacity within ten minutes after receiving dispatch instructions, as required by the CAISO.¹³

Each Participating Generator shall ensure: (i) that its Generating Units scheduled to provide Spinning Reserve and Non-Spinning reserve are available for Dispatch throughout the Settlement Period for which they have been scheduled; and (ii) that its *Generating Units scheduled to provide Spinning Reserve are responsive to frequency deviations throughout the Settlement Period for which they have been scheduled.*

CAISO Tariff § 8.4.4, Original Sheet No. 88.

¹³ Complaint at 7.

The CAISO submits that MMC's facilities (the aggregated units operating under one resource ID as described above),¹⁴ provide only a small piece of Spinning Reserve within the plain meaning of the CAISO Tariff because the vast majority of MMC's capacity is neither synchronized nor immediately responsive to system frequency. If MMC wants to operate its facilities in this manner, it may bid the capacity of its small generators into the Spinning Reserve market. Or, it may bid the entire capacity of its aggregated units as Spinning Reserve and receive payment when its CT units are, in fact, spinning during the period of a Spinning Reserve award. But it may not claim as Spinning Reserve capacity that is neither synchronized nor responsive to system frequency.

MMC's position not only contradicts the plain language of the CAISO Tariff's definition of Spinning Reserve, it also ignores the difference between Spinning Reserve and Non-Spinning Reserve. These are two different capacity products that play different roles in assuring reliability and that command different prices in the marketplace. The fact that Spinning Reserve and Non-Spinning Reserve are distinct capacity products that serve different reliability roles is underscored by the fact that, like many of their counterparts across the nation, both WECC and the CAISO have implemented reliability standards that require a minimum amount of Spinning Reserve.¹⁵

¹⁴ At each of MMC's three generating facilities, MMC has aggregated two units (a small 20 kW generator coupled with a CT unit) under one resource ID number for purposes of bidding for ancillary services.

¹⁵ Section 8.2.3.2 of the CAISO Tariff, entitled "Spinning and Non-Spinning Reserves," provides:

The ISO shall maintain minimum contingency Operating Reserve made up of Spinning Reserve and Non-Spinning Reserve in accordance with WECC MORC criteria The Spinning Reserve component of Operating Reserve shall be no less than one-half the Operating Reserve required for each Settlement Period of the Day-Ahead Market, the Hour-Ahead Market and the Real Time Market.

Similarly, the NERC Regional Standard for the Western interconnection requires that at least half of all contingency reserve be Spinning Reserve. Reliability Standard BAL-STD-002-0 ("Operating Reserves"),

The CAISO Tariff defines “Non-Spinning Reserve” as:

The portion of off-line generating capacity that is capable of being synchronized and Ramping to a specified load in ten minutes (or load that is capable of being interrupted in ten minutes) and that is capable of running (or being interrupted) for at least two hours.¹⁶

MMC’s CT Units’ capacity, which is off-line generating capacity capable of being synchronized and ramping to a specified load in ten minutes, fits squarely within the definition of Non-Spinning Reserve. MMC makes much of the fact that its aggregated units are capable of ramping up in ten minutes, but neglects to mention that the same requirement applies to Non-Spinning Reserve as well. Indeed, MMC has given no reason to believe that its CT Unit’s capacity should not be considered Non-Spinning Reserve when the CT Unit is off-line, or why the addition of a tiny generator would confer any reliability benefit that would justify treating the off-line CT Unit as Spinning Reserve rather than Non-Spinning Reserve. The Commission need look no further than the four corners of the CAISO Tariff to resolve this question.

C. The Clear Language in the CAISO Tariff Renders MMC’s Allegations of Detrimental Reliance Immaterial

MMC claims that it relied on statements allegedly made by CAISO staff. Although the CAISO strongly objects to MMC’s account of the events described, the CAISO accepts that, for the purposes of this motion for summary disposition, the facts alleged will be viewed in the light most favorable to MMC.¹⁷ Even accepting all of MMC’s allegations as true, however, they are immaterial to the question of tariff interpretation that is central to MMC’s Complaint.

In *NYISO v. Astoria Energy, LLC*,¹⁸ the Commission made clear that communications between Independent System Operator (“ISO”) staff and ISO members are immaterial when the

§ B.(a)(ii) (a copy is attached hereto as Exhibit A). The standard defines Spinning Reserve as “unloaded generation *which is synchronized* and ready to serve additional demand.”). *Id.* (emphasis added).

¹⁶ CAISO Tariff, Appendix A, Master Definitions Supplement, Original Sheet No. 515.

¹⁷ See *KGen Hinds LLC*, 117 FERC ¶ 63,004, at P 44 (2006).

¹⁸ 118 FERC ¶ 61,126 (2007).

tariff is clear. The Commission stated: “under our precedent, informal communications between the parties do not take precedence over the language of the filed tariffs.”¹⁹ Although in that case, the Commission found the NYISO tariff ambiguous, it stated that “had the Services Tariff been clear and unambiguous about the ICAP requirements at issue in this proceeding, informal communications (whether written or oral) by NYISO’s representatives would be immaterial to resolving the issues.”²⁰

The Commission’s rule that clear tariff language supersedes communication between the parties is a straightforward application of the Filed Rate Doctrine. Under that doctrine, the filed rate controls and not even a duly executed contract may be enforced when it contradicts the filed rate.²¹ Thus, MMC’s observation that, under the common law, “detrimental reliance on promises and statements by one party can create an enforceable contract”²² is of no moment. As the Commission has held, just as the Filed Rate Doctrine prevents enforcement of a formal contract that would contradict a filed rate, it also prevents parties from incurring a contractual obligation based on detrimental reliance where doing so contradicts a filed rate.²³ The Commission has held that “we would consider a regulatory regime that suspended the effectiveness of Commission-approved tariffs every time an ISO made a statement in conflict with the effective

¹⁹ *Id.* at P 36 (citing *Arco Oil and Gas Co.*, 22 FERC ¶ 61,293, at p. 61,515 (1983)).

²⁰ *Id.*; see also *Midwest Independent Transmission System Operator, Inc.*, 121 FERC ¶ 61,131, at P 25 (2007) (hereinafter “*MISO*”) (rejecting argument that a market participant should be entitled to rely on the Midwest ISO’s statements, filings, and manuals, and holding that the clear language of the tariff controls).

²¹ See *Arkansas Louisiana Gas Co. v. Hall*, 453 U.S. 571, 582 (1981) (“under the filed rate doctrine, when there is a conflict between the filed rate and the contract rate, the filed rate controls.”).

²² Complaint at 27.

²³ See *Transcontinental Gas Line Corp.*, 35 FERC ¶ 61,043, at p. 61,081 (1986) (“Promissory estoppel . . . is more related to contract than to fraud. It involves detrimental reliance on a gratuitous promise. We find above that formal contracts to supply gas are overridden by effective curtailment tariffs. It would be incongruous to find that claims based on a gratuitous promise are not similarly nullified.”); see also *Reiter v. Cooper*, 507 U.S. 258, 266 (1993) (“The filed rate doctrine embodies the principle that a shipper cannot avoid payment of the tariff rate by invoking common-law claims and defenses such as ignorance, estoppel, or prior agreement to a different rate.”).

tariff to be an uncertain market environment that would undermine market participants' confidence in the rules applicable to their transactions."²⁴

As explained above, the CAISO Tariff is clear on the point at issue. The Tariff defines "Spinning Reserve" as "capacity" that is "synchronized" and "immediately responsive to system frequency."²⁵ The Tariff also defines "Non-Spinning Reserve" as "off-line generating capacity that is capable of being synchronized and Ramping to a specified load in ten minutes."²⁶ There is simply no question that during times when MMC's CT Units are off-line and not synchronized, such capacity qualifies as Non-Spinning Reserve under the CAISO Tariff and does not qualify to be bid as Spinning Reserve. Therefore, even accepting MMC's allegations as true, the clear language of the CAISO Tariff renders them immaterial.

Although the CAISO Tariff is unambiguous and the Commission need not look beyond the four corners of the Tariff to interpret it, it bears mention that the CAISO's position (*i.e.*, that Spinning Reserve is on-line, synchronized capacity and that Non-Spinning Reserve is off-line, non-synchronized capacity) comports with the understanding of the term Spinning Reserve as generally used by the Commission,²⁷ WECC,²⁸ other ISOs,²⁹ and other industry participants,

²⁴ *MISO*, 121 FERC ¶ 61,121, at P 39 (2007).

²⁵ CAISO Tariff Appendix A, Original Sheet No. 528A.

²⁶ *Id.* at Original Sheet No. 515A.

²⁷ *See Mandatory Reliability Standards for the Bulk-Power System*, 118 FERC ¶ 61,218 (Order No. 693) (approving "Glossary of Terms Used in Reliability Standards" developed for North American Electric Reliability Corporation (NERC), which defines "Spinning Reserve" as "Unloaded generation that is synchronized and ready to serve additional demand"); *see also* Order 693 at P 340 ("The Commission agrees with MISO that certain terms such as 'spinning' and 'non-spinning' or any other term used to describe contingency or operating reserves could be developed nation-wide. Additionally, we believe the technical requirements for resources that provide contingency reserves should not change from region to region"); *Revised Public Utility Filing Requirements for Electric Quarterly Reports*, 120 FERC ¶ 61,270 (2007) (defining "Spinning Reserve" as "Unloaded synchronized generating capacity that is immediately responsive to system frequency and that is capable of being loaded in a short time period or non-generation resources capable of providing this service.").

²⁸ *See supra* note 15.

²⁹ *See, e.g.*, New England Independent System Operator Market Rule 1, § III.1.3.2 (defining "Ten Minute Spinning Reserve" as "the reserve capability of a generating unit that can be converted fully into energy within ten minutes from the request of the ISO . . . and is provided by generating units and Dispatchable Asset Related Demand pumps electrically synchronized to the New England Transmission System.");

including MMC's own consultant.³⁰ Consequently, for the Commission to adopt MMC's unsupported assertion that an off-line generator qualifies as "synchronized" merely because it is attached to a tiny generator could have significant reliability implications reaching far beyond California.

D. Giving MMC a Grandfathered Right to Bid Non-Spinning Reserve as Spinning Reserve Would Not Be Just and Reasonable

If the Commission agrees that the CAISO Tariff requires Spinning Reserve to be capacity that is on-line, synchronized, and immediately responsive to system frequency, MMC's request that its facilities be grandfathered is moot. Were the Commission to order the CAISO to change its Tariff, however, the Commission would have to confront MMC's grandfathering request.

There is, however, no way the CAISO Tariff could be amended to grandfather MMC's practice while remaining just and reasonable. This is so for two reasons. First, allowing MMC to bid off-line, non-synchronized capacity into the CAISO Spinning Reserve market would put the CAISO Tariff into conflict with the Commission's mandatory reliability standards, specifically, the NERC Regional Standard, WECC Standard BAL-STD-002-0 ("Operating Reserves").³¹ BAL-STD-002-0 requires contingency reserve (at least half of which must be

New York Independent System Operator Service Tariff § 2.129 (defining "Spinning Reserve" as "Operating reserves provided by Generators . . . that are already synchronized to the NYS Power System and can respond to instructions to change their output level, or reduce energy usage, within ten (10) minutes"); PJM Operating Agreement § 1.3.33B.01 (defining "Synchronized Reserve" as "provided by equipment that is electrically synchronized to the Transmission System"); *see also Wholesale Competition in Regions with Organized Electric Markets*, 122 FERC ¶ 61,167, at P 39 (2008) (describing synchronized reserves as "PJM's term for spinning reserves").

³⁰ Indeed, MMC's own consultant recognizes that Spinning Reserve must be on-line and synchronized. ECCO International, Inc. has stated that "tertiary reserve is only incremental capacity reserve and it may be provided by either on-line synchronized units or off-line units that can start up and synchronize with the grid within ten minutes. The former form of contingency reserve is commonly referred to as spinning reserve, whereas the latter form is commonly referred to as non-spinning reserve." Complaint, Attachment I at 3.

³¹ The Energy Policy Act of 2005 requires that the Commission-certified Electric Reliability Organization, the North American Electric Reliability Corporation ("NERC") develop mandatory and enforceable reliability standards that are subject to Commission review and approval. Once approved, each reliability standard may be enforced by NERC, subject to Commission oversight, or the Commission can

Spinning Reserve) equal to the greater of the most severe single contingency or the sum of five percent of load served by hydro generation and seven percent of load served by thermal generation.³² The CAISO has mirrored this provision in Section 8.2.3.2 of its Tariff. The BAL-STD-002-0 standard then defines Spinning Reserve as “unloaded generation which is *synchronized* and ready to serve additional demand.”³³ Therefore, were the CAISO to allow non-synchronized units to provide Spinning Reserve, it would risk falling out of compliance with the NERC reliability standard if the MMC facilities pushed the level of true Spinning Reserves (as defined by the reliability standard) below 50 percent of contingency reserve. To remain in compliance, the CAISO would have to procure additional Spinning Reserve to offset MMC’s production – the cost of which would be passed along to load and ultimately to retail ratepayers. Given that in approving BAL-STD-002-0, the Commission stated that the standard “meets a need of the Western Interconnection,”³⁴ grandfathering that causes conflict between this standard and the CAISO Tariff would not be just and reasonable.

Secondly, the CAISO knows of no precedent – and MMC has pointed to no precedent – for the type of grandfathering MMC is requesting. It is true that in rare cases, the Commission allows grandfathering of *rates* for facilities of a certain vintage,³⁵ but MMC is requesting grandfathering of a different sort. MMC seeks the sole right to provide a service that falls short of the service as described in the CAISO Tariff. In essence, MMC wants a perpetual right to be

independently enforce the reliability standard. The Commission also approves and may enforce reliability standards that reflect a regional difference for the Western interconnection, which is administered by WECC. BAL-STD-002-0 is one of the standards that reflects a regional difference and is administered by WECC through its delegated authority from NERC.

³² See Exhibit A, Reliability Standard BAL-STD-002-0 (“Operating Reserves”) § B(a)(ii).

³³ *Id.* (appearing in “Definitions” section) (emphasis added).

³⁴ See *North American Electric Reliability Corporation*, 119 FERC ¶ 61,260, at P 56 (2007).

³⁵ See *PJM Interconnection, L.L.C.*, 114 FERC ¶ 61,302 (2006); *but see Midwest Independent Transmission System Operator, Inc.*, 109 FERC ¶ 61,005, at P 37 (2004) (rejecting proposed grandfathering term as unduly discriminatory); *Pacific Gas & Electric Co.*, 71 FERC ¶ 61,394 (1995) (“section 205 of the FPA expressly permits . . . changes in rates and rate methodologies. Additionally, if the Commission were obligated to ‘grandfather’ a particular rate treatment forever simply because it was used in the past, there could never be innovation and improvement”).

paid for Spinning Reserve when it is in fact providing Non-Spinning Reserve. Needless to say, this sort of grandfathering would put other Spinning Reserve providers at a competitive disadvantage. For MMC to get this enhanced revenue stream would provide an undue preference in its favor.³⁶ Moreover, other providers would be financially disadvantaged for having interpreted the Tariff correctly. Meanwhile MMC – which profited from a misinterpretation of the Tariff in 2006 and 2007 – would be rewarded for its lack of diligence. This result simply could not be upheld as just and reasonable.³⁷

E. Conclusion to Motion for Summary Disposition

Because the CAISO Tariff defines “Spinning Reserve” as the “portion of unloaded synchronized capacity that is immediately responsive to system frequency,” the CAISO submits that the Commission should grant this motion for summary disposition and decide that (i) the portion of MMC’s capacity that is off-line and non-synchronized does not qualify as Spinning Reserve under the CAISO Tariff and (ii) that the Commission will not “grandfather” MMC’s units to allow MMC to bid for Spinning Reserve in a manner that is inconsistent with the clear terms of the CAISO Tariff.

III. ANSWER TO MMC’S COMPLAINT

This Answer responds to the material allegations set forth in MMC’s Complaint and asserts the CAISO’s defenses to MMC’s legal claims.³⁸ Part A of this Answer responds to

³⁶ *Nevada Hydro Co., Inc.*, 122 FERC ¶ 61,272, at P 83 (2008).

³⁷ *See Central Vermont Public Service Corp.*, F.P.C. Docket Nos. E-7685 & E-7798 (1974), 1974 WL 12815 (“no part of Section 205 of the Federal Power Act can be read as extending ‘grandfather’ protection to customers who – even though proposed rates survive all proper Section 205 tests – were the beneficiaries in past situations of inequity”).

³⁸ MMC’s Complaint recites a number of facts in both the “Summary” and “Background” sections followed by allegations interspersed throughout the “Complaint” section (Section V). The CAISO does not separately respond herein to all the evidentiary assertions contained in the Summary, and Background, footnotes and attached Declarations. Insofar as facts in the “Summary” and “Background” relate to material allegations made in Section V of the Complaint, those allegations are addressed. Any material allegation made in the Complaint not expressly admitted or denied below, is denied. The legal defenses

MMC's assertion that the CAISO has departed from its Tariff by requiring that capacity be on-line and synchronized to the grid to qualify as Spinning Reserve. Part B addresses MMC's allegations relating to the CAISO's stakeholder process on Spinning Reserve. Part C addresses MMC's unsubstantiated allegations of discrimination. Part D addresses MMC's claim that it may recover under a common law contract theory of detrimental reliance. Part E addresses MMC's assertion that its facilities "provide effective Spinning Reserve."³⁹ Part F addresses MMC's allegations relating to "No Pay Charges." Part G responds to MMC's baseless allegation that the CAISO has impermissibly threatened MMC.

A. The CAISO Tariff Compels the CAISO's Requirement that all Capacity Bid for Spinning Reserve Be On-line and Synchronized

MMC's aggregated facilities each have a 20 kW internal combustion engine ("ICE") generator connected to a CT generator. The ICE "host" is synchronized to the CAISO-controlled transmission grid. The CT unit remains off except when called upon to dispatch energy. The CT unit then begins to ramp and is intended by MMC to be synchronized at the bid capacity in 10 minutes.⁴⁰ This is the operating configuration that MMC has been bidding as Spinning Reserve and is hereinafter referred to as the "host/CT aggregation." MMC contends that the CAISO must amend its Tariff in order to prevent MMC from continuing to bid its full aggregated units' capacity into the Spinning Reserve market. However, for reasons discussed in the Motion for Summary Disposition, which is incorporated by reference herein, the CAISO submits that MMC is not entitled to any relief with respect to this claim. As for the specific allegations on pages 17 and 18 of the Complaint, the CAISO admits, denies, and avers as follows:

set forth in this Answer should be understood to incorporate the arguments advanced in the Motion for Summary Disposition submitted above.

³⁹ Complaint at 36 – 38.

⁴⁰ Complaint at 6.

The CAISO admits that it certified three MMC generation facilities as eligible to provide Spinning Reserve. The CAISO admits that members of its technical staff knew how MMC planned to operate them, but also avers that the CAISO informed MMC before the first unit was certified that it was reviewing the question of whether the operating configuration met Tariff requirements for Spinning Reserve.

The CAISO denies that any of its personnel recommended any configuration choice for the MMC facilities, but acknowledges that its technical staff did respond to questions from MMC about proposed configurations. The CAISO admits its personnel took all steps necessary to review and approve MMC units for certification and connection to the grid, and that one or more technical staff members stated these units would qualify to participate in the Spinning Reserve market, but avers these were not senior CAISO officials and further avers that a CAISO Vice President warned MMC that the CAISO was assessing the accuracy of this staff advice before MMC's first aggregated resource was certified.

The CAISO lacks information sufficient to know if MMC relied on any CAISO approval or advice to spend millions of dollars in purchasing, recommissioning, and configuring the MMC facilities; it denies that such reliance would have been reasonable, and therefore it disputes any claim of reliance.

The CAISO admits that it dispatched MMC's generating facilities as Spinning Reserve from June 2006 to September 2007. The CAISO admits MMC was using the host/CT aggregation at this time, but as explained in Section III.F of this Answer, denies the aggregation was on-line during every hour for which MMC was awarded Spinning Reserve.

The CAISO admits that it paid MMC's Scheduling Coordinator for Spinning Reserve services for over a year, with the exception of certain capacity payments that were rescinded under No Pay charges as discussed in detail in section F of this Answer.

The CAISO denies it made any promise to MMC or other stakeholders as to how it would interpret or apply its Tariff on the issue of host/CT aggregations or that it would refrain from enforcing the language of the Tariff until seeking an order from the Commission.

The CAISO further avers that it has not refused to allow MMC to bid its aggregated capacity into the Spinning Reserve market. MMC is certified and may bid in the Spinning Reserve market if it provides Spinning Reserve as defined by the Tariff. MMC may submit a correct Spinning Reserve bid for all of the capacity of its resources that are on-line, synchronized and immediately responsive to system frequency.

The CAISO denies that it did not complete the stakeholder process on the host/CT aggregation issue. The CAISO completed the process by Market Notice dated November 30, 2007.⁴¹ The CAISO also denies it made any promise that it would in fact file a “new Tariff interpretation” or a Tariff amendment to anyone – including Commission enforcement staff who were involved in the Hot-Line Dispute discussions. The CAISO stated in its September 20, 2007 “Supplement to Proposal for Spinning Reserve Certification” that it would consider seeking a Commission order, but ultimately determined it was unnecessary given the clarity of the Tariff definition of Spinning Reserve.

The CAISO avers additional true facts are as stated below.

1. Spinning Reserve

The CAISO Tariff defines Spinning Reserve as:

The *portion* of unloaded synchronized generating *capacity* that is immediately responsive to system frequency and that is capable of being loaded in ten minutes, and that is capable of running for at least two hours.⁴²

In contrast, the Tariff defines Non-Spinning Reserve as:

⁴¹ CAISO Market Notice, *CAISO Proposal for Spinning Reserve Certification* (issued Nov. 30, 2007) (“November 30, 2007 Market Notice”), a copy is attached hereto as Exhibit B.

⁴² CAISO Tariff, Master Definitions Supplement, Original Sheet No. 528A (emphasis added).

The portion of off-line *generating capacity that is capable of being synchronized* and Ramping to a specified load in ten minutes (or load that is capable of being interrupted in ten minutes) and that is capable of running (or being interrupted) for at least two hours.⁴³

Spinning Reserve is a costlier product than Non-Spinning Reserve because the generator providing the bid capacity must run in synchronization with the grid and be immediately responsive to system frequency. This entails the consumption of fuel and other operating costs.

Spinning Reserve, as defined by the Tariff, has two characteristics – synchronization and immediate frequency response – that provide valuable reliability benefits. Synchronized generation provides an additional measure of reliability because that it can respond more readily and reliably than off-line generation. Frequency response is the natural response of frequency-responsive loads and generators to deviations in frequency. Frequency Response typically occurs within twenty seconds following a disturbance. Generators synchronized to the grid automatically respond to disturbances through governor action, which is much like the cruise control on a car, to arrest frequency decline following the loss of a resource. Frequency Response cannot be provided if the generating resource is not synchronized to the grid. The greater the on-line generation capacity that is frequency responsive, the greater contribution to the arresting reaction is provided.⁴⁴ What is important is the amount of generation *capacity* that is synchronized, which explains why the Tariff definition of Spinning Reserve is expressed in terms of capacity. As more fully explained in the attached Declaration of Clyde Loutan, this frequency response feature provides a significant contribution to Grid reliability.⁴⁵

2. Certification of MMC Generators

On May 13, 2005, Mr. Martin Quinn, Mr. Karl Miller, and Mr. Denis Gagnon of MMC visited the CAISO offices in Folsom for an initial “meet and greet” introduction to CAISO staff.

⁴³ *Id.* at Original Sheet No. 515.

⁴⁴ Declaration of Clyde Loutan, at ¶ 5, attached hereto as Exhibit C.

⁴⁵ *Id.*

MMC asserts that Mr. Edward Fishback made recommendations regarding Spinning Reserve qualifications immediately after MMC's May, 2005 meeting. But, in fact, Mr. Fishback, who later acted as project manager on the MMC applications for connection to the Grid, did not raise the possibility that MMC facilities could qualify for Spinning Reserve. Mr. Fishback was not at that meeting with MMC and has no recollection or record of being introduced to MMC officials on that day.⁴⁶

MMC officials attended a meeting with CAISO staff on November 3, 2005. According to Martin Quinn, the only MMC employee to provide an affidavit on this meeting, MMC officials traveled to the CAISO headquarters for a meeting on Reliability Must Run ("RMR") contracts and that after their RMR meeting they had an impromptu meeting with other CAISO staff.⁴⁷ In that subsequent meeting, no CAISO officers or management officials were in attendance.⁴⁸ Mr. Edward Fishback was the only CAISO staff member at that subsequent meeting to discuss the specifics regarding the generator configurations for Spinning Reserve.⁴⁹ MMC officials stated their understanding that the Wellhead Electric Company used the host/CT aggregation⁵⁰ and bid their product into the Spinning Reserve market. Mr. Fishback confirmed that fact. Thereafter, Mr. Fishback worked with MMC officials and its consultant to answer questions about their proposed configuration. At no time did Mr. Fishback ever suggest that MMC use the configuration proposed.⁵¹ Also, while Mr. Fishback may have heard in passing references by MMC officials that MMC was looking to bid Spinning Reserve for financial reasons, at no time was he informed of the details of the MMC business plan.⁵² MMC does not

⁴⁶ Declaration of Edward Fishback at ¶¶ 7-8, attached hereto as Exhibit D.

⁴⁷ Complaint, Attachment A at 4-5.

⁴⁸ Declaration of Edward Fishback at ¶ 4.

⁴⁹ *Id.* at ¶ 5.

⁵⁰ In November 2005, the first Wellhead aggregate unit with the host/CT aggregation was certified for Spinning Reserve.

⁵¹ Fishback Declaration at ¶ 8.

⁵² *Id.* at ¶ 9.

claim that Mr. Fishback was briefed on their financial and marketing strategy. He could not be expected to comprehend that MMC would solely be relying on his words to make major business decisions.

In April 2006, CAISO staff began an internal assessment of the host/CT aggregation configuration.⁵³ As a result of this internal review, CAISO management became aware that staff had told two companies, MMC and Wellhead Electric Company, they could use the host/CT aggregation for Spinning Reserve.⁵⁴ On May 16, 2006, the CAISO held an internal meeting to discuss the appropriateness of permitting the host/CT aggregation to be certified for Spinning Reserve.⁵⁵

MMC was aware of the May 16 meeting in advance of it. MMC representative Martin Quinn asked the CAISO if MMC could attend. His request was declined, but by letter dated May 22, 2006, from James Detmers, Vice President of CAISO Grid operations, to Mr. Quinn, Mr. Detmers confirmed that the CAISO was reconsidering the staff advice given to MMC about its operating configuration. Specifically, MMC was informed that the CAISO wanted to “ensure that . . . all aggregated generation resources certified for Spinning Reserve *comply with the ISO Tariff* and WECC reliability criteria.”⁵⁶ Mr. Detmers invited MMC’s input and stated that market participants would get notice “of any changes in the CAISO technical standard and certification criteria.”⁵⁷

On May 26, 2006, Mr. Quinn responded by letter insisting that the certification process continue even though MMC “received indications that the CAISO was reconsidering its position” and that the CAISO might issue a market notice, “which would postpone indefinitely

⁵³ Loutan Declaration at ¶ 10.

⁵⁴ *Id.* at ¶ 8.

⁵⁵ *Id.* at ¶ 10.

⁵⁶ James Detmers letter to Martin Quinn, dated May 22, 2006 (emphasis added), a copy is attached hereto as Exhibit E.

⁵⁷ *Id.*

spin reserve testing of aggregated Units such as MMC's Units."⁵⁸ Notwithstanding clear notice that any certification for Spinning Reserve would not guarantee MMC's right to provide Spinning Reserve as contemplated, MMC proceeded to have its first two units certified in June 2006, and the third in June 2007.

B. The CAISO Stakeholder Process

One issue the CAISO faced when assessing the host/CT aggregation was that its certification procedures at that time did not address the specific situation of aggregated units. Appendix K "Ancillary Service Requirements Protocol," Part B of the Tariff, sets forth a protocol for certification. This Tariff protocol provides certain test metrics for Spinning Reserve testing "technical capability" of the generator.⁵⁹ The CAISO's written operating procedures for ancillary services certification testing in effect at that time, did not specify that the starting point position for a unit (or all units in an aggregation) being tested for Spinning Reserve be on-line for purposes of conducting the certification test.⁶⁰ While the certification testing procedures test the capability of a unit; certification does not guarantee that both units in an aggregated resource are on-line and synchronized each and every time their capacity is supposed to be providing Spinning Reserve as result of a successful market bid. Therefore, the Wellhead and MMC aggregated generators passed the certification tests for Spinning Reserve from a narrow, technical capability standpoint. Accordingly, they were and remain, certified to provide Spinning Reserve. The mere fact that these facilities were certified, however, does not mean that they may legitimately bid and be paid for Spinning Reserve capacity that is off-line and not synchronized.

⁵⁸ Complaint at Attachment A, Exhibit D.

⁵⁹ See CAISO Tariff at Appendix K, § B.2.

⁶⁰ See CAISO's Generator Certification Testing Operating Procedure, Procedure No. G-213, at p. 15, Version 5.0 (effective July 19, 2005), relevant portion attached hereto as Exhibit F. The Testing Operating Procedures did not address the starting point position for testing for Spinning Reserve and only specified a starting point position for testing Non-Spinning Reserve (requiring the units to start off-line).

The CAISO, in its market notice dated August 31, 2006 titled “Ancillary Services – Spinning Reserve, Testing and Certification,” announced that it was suspending certification of aggregated Generating Units pending a review of its Spinning Reserve procurement procedures to ensure that they met WECC Mandatory Operating Reliability Criteria (“MORC”) and the CAISO Tariff requirements.⁶¹ On September 18, 2006, the CAISO issued a Market Notice announcing that it would resume certification testing.⁶² The Market Notice made abundantly clear, however, that off-line, non-synchronized capacity could not be paid as Spinning Reserve, stating: “The entire awarded Spin capacity must be synchronized to the Grid.”⁶³

Following the issuance of this second Market Notice, the CAISO discovered that MMC and one other generation owner were continuing to bid Spinning Reserve capacity that was off-line and not synchronized during the period of the Spinning Reserve award. Deciding that a formal stakeholder process might be helpful, on June 13, 2007, the CAISO issued another Market Notice soliciting stakeholder input with a White Paper entitled “Proposal for Spinning Reserve Certification.” The CAISO conducted Stakeholder conference calls and received only six written comments -- two were from or on behalf of MMC.⁶⁴ MMC was the only commenting party that took a position against the White Paper proposal to ensure that the host/CT aggregation does not qualify as Spinning Reserve. MMC’s comments included as an attachment the “comments” of MMC’s consultant ECCO International.⁶⁵ ECCO International argued that Spinning Reserve should not have to be frequency responsive, but it did not address the issue

⁶¹ CAISO Market Notice, *Ancillary Services – Spinning Reserve, Testing and Certification* (issued Aug. 31, 2006) (“August 31, 2006 Market Notice”), a copy is attached hereto as Exhibit G.

⁶² CAISO Market Notice, *Ancillary Services – Spinning Reserve Requirements* (issued Sept. 18, 2006) (“September 18, 2006 Market Notice”), a copy is attached hereto as Exhibit H.

⁶³ *Id.* at 2.

⁶⁴ For a copy of the filed comments, see CAISO’s website, Operations Center, Stakeholder Initiative Archives, <http://www.caiso.com/1bfc/1bfc7d23491e0.html>.

⁶⁵ See Complaint, Exhibit I (ECCO International July 2007 Comments).

that the Tariff definition required frequency responsiveness.⁶⁶ Moreover, ECCO International admitted that Spinning Reserve must be on-line and synchronized.⁶⁷

The stakeholder process revealed that there was no legitimate basis for doubt about the meaning of the Tariff definition of Spinning Reserve.⁶⁸ On September 20, 2007, the CAISO issued its “Supplement to the Proposal for Spinning Reserve Certification,” in which the CAISO stated it was revising its testing procedures “[i]n order to ensure that host/CT aggregations comply with these Tariff requirements and do not cause reliability issues.”⁶⁹ The CAISO added that it was considering seeking a Commission order “to enforce the *existing* policy and provisions in the CAISO Tariff on the requirements of Spinning Reserve.”⁷⁰

Since it was clear that a host/CT aggregation does not provide Spinning Reserve when the larger CT unit is off during the period of the award, the CAISO found no need to take action other than amending its certification testing methodology to address the testing of Spinning Reserve.⁷¹ The CAISO concluded that asking the Commission to confirm the obvious would be unnecessary and an inappropriate use of Commission and CAISO resources. Accordingly, the CAISO issued its November 30, 2007, Market Notice announcing:

This stakeholder initiative is now being closed. The CAISO has determined that the Tariff clearly sets forth the requirements for providing Spinning Reserve and contains the necessary monitoring and enforcement mechanisms for the CAISO to ensure that all Market Participants, including aggregated units, comply with these requirements. Accordingly, the CAISO has decided not to file a Tariff amendment related to the Spinning Reserve provisions at this time.⁷²

⁶⁶ See Loutan Declaration at ¶ 13.

⁶⁷ See *supra* note 30.

⁶⁸ Moreover, the CAISO position was confirmed by the WECC Minimum Operating Reliability Criteria Workgroup. See Loutan Declaration at ¶ 11 and the exhibit to the Loutan Declaration (the WECC MORC Work Group June 27-28, 2006 Meeting Minutes).

⁶⁹ CAISO Market Notice, *Supplement to Proposal for Spinning Reserve Certification*, at 3 (issued Sept. 20, 2007) (“September 20, 2007 Market Notice”), a copy is attached hereto as Exhibit I.

⁷⁰ *Id.* (emphasis added).

⁷¹ See CAISO’s Generator Certification Testing Operating Procedure, Procedure No. G-213, at 15, Version 6.0 (effective Dec. 17, 2007), attached hereto as Exhibit J.

⁷² See November 30, 2007 Market Notice, Exhibit B.

The CAISO has acted reasonably to correct mistaken advice given by its technical staff to MMC. While it considered obtaining a Commission order enforcing the Tariff against host/CT aggregations, the CAISO saw no need to do so, and instead simply provided notice to Market Participants.

C. The CAISO Has Not Discriminated Against MMC

MMC claims it is the victim of undue discrimination. This claim is nonsense. Currently, of the more than 700 generation units connected to the CAISO grid, 191 are certified to provide Spinning Reserve and 50 of those are aggregates. The aggregates account for more than 8,200 MW of Spinning Reserve. The host/CT aggregation was employed by just six aggregates operated by two companies, representing a total capacity of approximately 217 MW.

The CAISO has sought only to enforce its Tariff; it has never singled out MMC in order to “target[] small independent providers of spinning reserve”⁷³ or for any other purpose. MMC is alone not because it has been singled out, but because it is – to the CAISO’s knowledge – the only Market Participant that continues to claim that off-line, non-synchronized capacity qualifies as Spinning Reserve under the CAISO Tariff.

MMC’s contention of discriminatory treatment at pages 31 through 35 of the Complaint is based on irrelevant and unsubstantiated assertions.⁷⁴ The most egregious example is MMC’s discussion of the proposed future use of Demand Response resources as the Spinning Reserve.⁷⁵ This case is about the current definition of Spinning Reserve and *generation* capacity. Demand response has nothing to do with the issues in this case.

⁷³ Complaint at 32.

⁷⁴ See Complaint, Attachment C at 14-16.

⁷⁵ Complaint at 34.

Further, a number of MMC's assertions based on Alex Sokoletsky's affidavit lack specificity.⁷⁶ For example, MMC refers to complaints by unnamed "incumbent providers of spinning reserve" that caused the CAISO to eliminate "several proposed requirements." A comparison of the requirements in the September 18, 2006, Market Notice with the requirements as restated in the November 30, 2007 Market Notice reveals that no requirements for Spinning Reserve verification were eliminated.⁷⁷

In claiming that the CAISO does not require other aggregates to run *all* their generators, Mr. Sokoletsky⁷⁸ may misunderstand the difference between aggregated units with a number of large generators and the host/CT aggregation. Consistent with its Tariff, the CAISO requires that generation capacity *up to the amount of the Spinning Reserve capacity bid* needs to be spinning. As stated in its September 16, 2006 market notice: "The aggregated Generation Units' unloaded capacity must be equal to or greater than the awarded Spin capacity."⁷⁹ For example, if an aggregate generator has three 50 MW units and bids 75 MW of spin in the forward market, two generators would have to be on-line but the third could be off-line during the award period.

While MMC asserts that the CAISO treats other generators differently – allowing some to bid off-line capacity – it fails to allege even a single example of the CAISO allowing a generator to do what MMC seeks to do. Accordingly, MMC's Complaint does not comply with the requirement in FERC's regulations that it "[c]learly identify the action or inaction which is alleged to violate applicable statutory standards or regulatory requirements."⁸⁰ For that reason, MMC's claim of undue discrimination must be dismissed.

⁷⁶ See Complaint, Attachment C at 14-16.

⁷⁷ See September 18, 2006 Market Notice and November 30, 2007 Market Notice.

⁷⁸ Complaint, Attachment C at ¶ 38.

⁷⁹ September 18, 2006 Market Notice.

⁸⁰ 18 C.F.R. § 385.206(b)(1).

D. MMC May Not Recover on a Detrimental Reliance Theory

As explained in the Motion for Partial Summary Disposition, detrimental reliance or promissory estoppel, is a common law contract theory. But, under the Filed Rate Doctrine, a contract may not be enforced if it contradicts a filed rate. And, as both the Commission and the Supreme Court have held, if the Filed Rate Doctrine prevents the enforcement of a fully executed contract that contradicts a filed rate, it must also prevent enforcement of a contract based on promissory estoppel.⁸¹ Thus, although the parties' statements about the meaning of a tariff provision may be considered as extrinsic evidence when the language of the tariff is otherwise ambiguous (which is not the case in this proceeding), such statements do not provide an independent basis for recovery.⁸²

Even if the Commission were to disregard the Filed Rate Doctrine, MMC has failed to state a claim for detrimental reliance. The CAISO lacks sufficient information to admit or deny that MMC in fact relied on CAISO staff advice. However, the CAISO denies that any such reliance was reasonable, which is a necessary element of a detrimental reliance claim. MMC asserts that it believed the CAISO would forever treat off-line capacity as Spinning Reserve, notwithstanding (1) the clear language of the Tariff, (2) the clear language of the applicable WECC reliability standard, and (3) the fact that it was basing this view on the comments of relatively lower level technical staff. If MMC really believed that it would forever get paid for Spinning Reserve while providing Non-Spinning Reserve, such belief was not reasonable.

⁸¹ See *Transcontinental Gas Line Corp.*, 35 FERC ¶ 61,043, at p. 61,081 (1986) (“Promissory estoppel . . . is more related to contract than to fraud. It involves detrimental reliance on a gratuitous promise. We find above that formal contracts to supply gas are overridden by effective curtailment tariffs. It would be incongruous to find that claims based on a gratuitous promise are not similarly nullified.”); see also *Reiter v. Cooper*, 507 U.S. 258, 266 (1993) (“The filed rate doctrine embodies the principle that a shipper cannot avoid payment of the tariff rate by invoking common-law claims and defenses such as ignorance, estoppel, or prior agreement to a different rate.”).

⁸² *NYISO v. Astoria Energy, LLC*, 118 FERC ¶ 61,126, at P 36 (2007) (“under our precedent, informal communications between the parties do not take precedence over the language of the filed tariffs.”) (citing *Arco Oil and Gas Co.*, 22 FERC ¶ 61,293, at p. 61,515 (1983)).

E. MMC Has Not Provided Effective Spinning Reserve

As explained above, the Tariff definition of Spinning Reserve requires synchronization and frequency responsiveness because these attributes are important to reliability. Because MMC's aggregated units, as bid, provided at best only minute amounts of synchronized, frequency-responsive capacity from the 20 kW ICE unit, they have not provided effective Spinning Reserve. Indeed, they have not provided the amount of Spinning Reserve for which MMC has been paid. The product MMC is attempting to have accepted by the CAISO and this Commission is Non-Spinning Reserve with a tiny synchronized generator attached. MMC does not explain what advantage this product has over Non-Spinning Reserve to grid reliability or to California's ratepayers. MMC's assertions regarding the importance of its units, are nothing more than a last-ditch effort to continue to operate its units in a manner that allows MMC to earn revenue for a product it is not providing. To be sure, MMC's generators are valued as resources for Non-Spinning Reserve, but other than as admitted expressly in this Answer, the CAISO categorically denies the allegations in section V.D of the Complaint.

F. The CAISO Properly Issued No Pay Charges for the Trading Days MMC's Units Were Unavailable, Undispatchable, or Unconnected

The CAISO denies MMC's inflammatory allegations throughout its Complaint and on this issue. For example, MMC claims that the CAISO has "refused to provide any lawful basis for its refusal to pay," engaged in "[b]rutish actions," "threatened retaliation,"⁸³ and "improperly withheld over \$500,000 in past period payments due to MMC's opposition to CAISO's proposed changes to the spinning reserve requirements."⁸⁴ MMC's allegations are false and unsupported and should be rejected outright by the Commission.

⁸³ Complaint at 39.

⁸⁴ Complaint at 19; *see also id.* at Attachment B, ¶ 13.

Setting aside MMC's rhetoric, the issue is straightforward. The CAISO assessed No Pay Charges under the CAISO Tariff to rescind Spinning and/or Non-Spinning Reserve payments to MMC for Trading Days July 24, 2006 through August 3, 2006 and various Trading Days between July 1, 2007 and September 30, 2007 because MMC's units failed to meet the applicable Ancillary Service requirements and provide the service that had been procured by the CAISO.⁸⁵ In each instance in which the CAISO assessed No Pay Charges, an aggregated MMC unit was scheduled to provide Spinning and/or Non-Spinning Reserve service but its capacity was unavailable.⁸⁶ CAISO Tariff Section 8.10.2.2 mandates the rescission of payments for Spinning or Non-Spinning Reserve capacity that is unavailable during the period for which the Ancillary Service is scheduled. As discussed in detail below, the CAISO's assessment of No Pay Charges to MMC for unavailable Spinning and/or Non-Spinning Reserve capacity was proper and consistent with the requirements of the CAISO Tariff. The Commission should dismiss as unsubstantiated MMC's allegations that Spinning Reserve revenues in the amount of \$522,188 have been wrongfully withheld by the CAISO, deprived from MMC, or are owed to MMC.⁸⁷

Not only do MMC's allegations lack merit, the dollar amount of relief MMC requests exceeds the Spinning Reserve payments that the CAISO rescinded through No Pay Charges. MMC requests \$522,188 as "past-due Spinning Reserve revenues that the CAISO has refused to pay MMC."⁸⁸ However, the CAISO's settlement records show that the CAISO applied No Pay Charges that rescinded Spinning Reserve payments to MMC of \$240,534 for the Trading Days

⁸⁵ Declaration of Tiffany Borchardt at ¶ 2, attached hereto as Exhibit K.

⁸⁶ *Id.*

⁸⁷ Complaint at 5, 39 – 44.

⁸⁸ *Id.* at 45.

July 24, 2006 through August 3, 2006, and \$103,010 for the Trading Days July 1, 2007 through September 30, 2007, for a total of \$343,544.⁸⁹

The CAISO also denies MMC's various allegations that characterize the CAISO's assessment of No Pay Charges as "retroactive" or being applied "months after" the service was provided, or that otherwise call into question the motivation or timing of the CAISO's assessment of the No Pay Charges to rescind Spinning and Non-spinning Reserve capacity payments to MMC.⁹⁰ The CAISO applies No Pay Charges in the ordinary course of its settlement process, consistent with the CAISO Tariff and in accordance with the CAISO Payment Calendar under which settlement charges are included in the Preliminary Settlement Statement issued 38 Business days after the Trading Day. The assessment of No Pay Charges to MMC followed this process.⁹¹

(i) No Pay Charges for Trading Days July 24 – August 3, 2006

By letter dated November 3, 2006, PPM Energy, Inc., the Scheduling Coordinator for MMC, requested Good Faith Negotiations ("GFN") with the CAISO under CAISO Tariff Section 13.2.1 with respect to the application of No Pay Charges that rescinded payment of \$241,198 for MMC's Ancillary Service bids of Spinning and Non-Spinning Reserve capacity for Trading Days July 24, 2006 through August 3, 2006.⁹² The CAISO accepted the request for GFN and on January 18, 2007, representatives of MMC and the CAISO met to initiate the GFN.⁹³ The parties discussed the disputed charges in the GFN, and in the confidential settlement

⁸⁹ In addition to Spinning Reserve payments, the CAISO properly rescinded \$664 in Non-Spinning Reserve payments to MMC for the Trading Days July 24, 2006 through August 3, 2006, and \$175,780 in Non-Spinning Reserve payments for certain Trading Days in July, August, and September 2007. However, even if the rescinded Non-Spinning Reserve payments -- which MMC has not requested in its Complaint -- were added to the rescinded Spinning Reserve payments, the total is still less than MMC's requested amount of relief. *See* Borchardt Declaration at ¶ 3.

⁹⁰ *See* Complaint at 19, 42, and 43.

⁹¹ *See* Borchardt Declaration at ¶ 4.

⁹² *See id.* at ¶ 5.

⁹³ *Id.*

negotiations that occurred in October and November 2007, which MMC improperly discloses and mischaracterizes in its Complaint.⁹⁴ By letter dated February 22, 2008, the CAISO advised MMC that it had determined that the disputed No Pay Charges were correctly applied and that the GFN was closed (“February 22 Letter”).⁹⁵

As explained in the February 22 Letter, MMC submitted changes to the ramp rate values in the CAISO Master File for each aggregated unit configuration effective Trading Day July 24, 2006. The ramp rate was changed from the maximum ramp rate (*i.e.*, the fastest rate to change the load level of the aggregated units in a constant manner over a fixed time) to the minimum ramp rate (*i.e.*, the slowest rate to change the load level of the aggregated units in a constant manner over a fixed time).⁹⁶ From July 24, 2006 to August 3, 2006, the Scheduling Coordinator for MMC’s units submitted bids for Spinning and Non-Spinning Reserve, with corresponding Supplemental Energy bids, that used the units’ minimum ramp rate.⁹⁷ For both MMC’s Escondido and Chula Vista aggregated units, the minimum ramp rate used for this period was 0.02 MW per minute.⁹⁸ This means that MMC’s units were bidding, and being awarded, Spinning and Non-Spinning Reserve capacity in the range of 35 MW in the forward market, but the amount of dispatchable Spinning and Non-Spinning Reserve capacity in real time was then restricted by the minimum ramp rate to Ramping only 0.2 MW of the 35 MW in ten minutes.⁹⁹

MMC’s use of the slower, minimum ramp rate values indicated the units were unable to ramp up to the awarded capacity level within ten minutes as required for Spinning Reserve and Non-Spinning Reserve, and resulted in its units having unavailable and undispatchable

⁹⁴ See Complaint at 4 - 5 and 19.

⁹⁵ See CAISO’s February 22, 2008 Letter to MMC, a copy is attached hereto as Exhibit L.

⁹⁶ CAISO Tariff, Appendix A, Master Definitions, defines “Ramping” as: “Changing the loading level of a Generating Unit in a constant manner over a fixed time (*e.g.*, ramping up or ramping down). Such changes may be directed by computer or manual control.”

⁹⁷ Borchardt Declaration at ¶ 6.

⁹⁸ *Id.*

⁹⁹ *Id.* at ¶ 7.

capacity.¹⁰⁰ The CAISO Tariff requires that units scheduled to provide Spinning and Non-Spinning Reserve service be capable of ramping up to the awarded capacity level within ten minutes.¹⁰¹ If a unit's ramp rate does not meet the required ten-minute Ramping capability, then its reserved capacity is unavailable and undispachable during the period of the award, and does not meet the requirements of Spinning or Non-Spinning Reserve service.¹⁰² For the Trading Days at issue, July 24 through August 3, 2006, the ramp rates that MMC assigned to its units did not allow those units to meet the ten-minute requirement.¹⁰³ Due to this ramp rate limitation, the units' capacity was not available as Spinning and Non-Spinning Reserve and was not dispatchable.¹⁰⁴ Pursuant to CAISO Tariff Sections 8.10.2.2 and 8.10.2.2.3, and the CAISO's No Pay for Ancillary Services Settlements Guide ("Settlement Guide"), the CAISO therefore applied No Pay Charges to rescind the Spinning and Non-Spinning Reserve payments to MMC for the Trading Days at issue.¹⁰⁵

The CAISO's rescission of payments to MMC for the unavailable capacity complies with the provisions of the CAISO Tariff. CAISO Tariff Section 8.10.2.2 provides, in pertinent part, that: "If capacity scheduled into the ISO's Ancillary Services markets for a Generating Unit, Curtailable Demand, System Unit, or System Resource is unavailable during the relevant Settlement Interval, then payments will be rescinded as described herein." In addition, CAISO Tariff Section 8.10.2.2.3 states that:

¹⁰⁰ *Id.* at ¶ 8.

¹⁰¹ The ten-minute ramping requirement is set forth in the definitions of Spinning Reserve and Non-Spinning Reserve in the CAISO Tariff, Appendix A, Master Definitions. "Spinning Reserve" is defined as: "The portion of unloaded synchronized generating capacity that is immediately responsive to system frequency and that is capable of being loaded in ten minutes, and that is capable of running for at least two hours." "Non-Spinning Reserve" is defined as: "The portion of off-line generating capacity that is capable of being synchronized and Ramping to a specified load in ten minutes (or load that is capable of being interrupted in ten minutes) and that is capable of running (or being interrupted) for at least two hours."

¹⁰² Borchardt Declaration at ¶ 8.

¹⁰³ *Id.* at ¶ 9.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at ¶ 10.

The ISO shall calculate the real-time ability of each Generating Unit and System Unit to deliver Energy from Ancillary Services capacity awarded or self-provided for each Settlement Interval based on its operational ramp rate as described in Section 30.4.6, maximum operating capability, and actual telemetered output. If the Generating Unit or System Unit cannot deliver the full amount of Energy from the awarded or self-provided Spinning, Non-Spinning or Replacement Reserve for a Settlement Interval then Ancillary Services capacity payments for the amount of Energy that cannot be delivered for the particular Settlement Interval shall be rescinded.

The purpose and application of No Pay Charges are further explained in the CAISO's Settlement Guide, which is posted on its website. As stated in the Settlement Guide:

No Pay is a settlement mechanism to encourage Generating Units . . . that schedule Ancillary Services (A/S) to schedule in accordance with the CAISO Tariff and Protocols and to keep the awarded capacity available for ISO Dispatch, to follow Dispatch Instructions and to avoid uninstructed deviations. The No Pay charges eliminate A/S capacity payments to the extent that the requirements for A/S were not fulfilled.¹⁰⁶

The Settlement Guide also explains the rationale for treating ramp-limited capacity as unavailable and undispatchable:

When the ISO awards A/S capacity in the forward markets, the unit is expected to deliver that service in accordance with the bid parameters originally specified. Those bid parameters include a bid ramp rate Each unit providing real-time services for ISO Dispatch also submits a Supplemental Energy curve. The Supplemental Energy ramp rate curve may show that the amount of A/S awarded in the forward markets based on bid ramp rate . . . is not available due to a lower ramp rate . . . in the Supplemental Energy curve. The ISO will only dispatch units according to their capability as specified in the Supplemental Energy bid.¹⁰⁷

Based on the foregoing, it is clear that the CAISO complied with the Tariff and properly rescinded \$241,198 of MMC's capacity payments through No Pay Charges for the Trading Days July 24 through August 3, 2006, when MMC's units were unavailable because its ramp rates indicated the units could not ramp up within the ten-minute requirement to the capacity amount awarded in the forward market for Spinning and Non-Spinning Reserve. The Commission

¹⁰⁶ Settlement Guide at 1, a copy is attached hereto as Exhibit M.

¹⁰⁷ Settlement Guide at 3.

should, therefore, dismiss, as unsupported, MMC's request that the CAISO pay MMC \$243,268 for Spinning Reserve capacity that was unavailable during these Trading Days.

(ii) No Pay Charges for July, August, and September 2007

In the circumstances just discussed, the Spinning and Non-Spinning Reserve capacity awarded to MMC's units was unavailable and undispachable due to Ramping restrictions. During the disputed 2007 timeframe, Spinning Reserve capacity awarded to MMC's units was unavailable because it was not connected to the CAISO Controlled Grid -- *i.e.*, it was not spinning. For various Trading Days from July 1, 2007 through September 30, 2007, the CAISO assessed No Pay Charges to rescind payments to MMC in the amount of \$93,295 for Spinning Reserve capacity because that capacity was not connected to the CAISO Controlled Grid and did not meet the requirements of the CAISO Tariff.¹⁰⁸

Unconnected capacity is unavailable under CAISO Tariff Section 8.10.2.2 and subject to No Pay Charges.¹⁰⁹ The Settlement Guide states that a unit with an Ancillary Services award will have its awarded capacity rescinded if the resource does not comply with the connectivity standard for that Ancillary Service. The connectivity standards for Spinning Reserve require the capacity to be capable of Ramping within ten minutes.¹¹⁰ As further explained in the Settlement Guide:

Generating Units . . . receive a No Pay charge if a unit is awarded Spinning Reserve in the Day-Ahead or Hour-Ahead market when the unit . . . is certified to provide Spinning Reserve but is not already on-line, or 'spinning' in Real Time.¹¹¹

¹⁰⁸ Borchardt Declaration at ¶ 11.

¹⁰⁹ *Id.* at ¶ 12.

¹¹⁰ Settlement Guide at 2; *see also* CAISO Tariff definitions of Spinning Reserve and Non-Spinning Reserve at Master Definitions Supplement, Original Sheet Nos. 528A and 515.

¹¹¹ Settlement Guide at 5. The Settlement Guide explains:

Uncertified/Unconnected Capacity: If a unit receives an Ancillary Services award in the Day-Ahead or Hour-Ahead Market and that unit is not authorized to provide that Ancillary Service, a No Pay charge will rescind any unauthorized capacity award. A unit will also have awarded capacity rescinded if a resource does not comply with the Ancillary Service Connectivity standards of that service.

In its Complaint, MMC objects to the assessment of No Pay Charges to rescind Spinning Reserve capacity payments. MMC also claims that it submitted operating logs to the CAISO that purportedly show that “the small generators at each facility were online throughout the period in which the facilities bid to provide spinning reserve service.”¹¹² To the contrary, MMC’s Scheduling Coordinator during that period, Bear Energy LP, submitted settlement disputes to the CAISO that challenged only \$2,311 of No Pay Charges for six Trading Days in the July through September, 2007 time period, far less than the \$265,018 MMC asks for in its Complaint.¹¹³ Further, MMC provided a daily log for only three of the six disputed Trading Days (September 20, 21, and 24, 2007) as attachments to the settlement disputes. The log dialog box in the three logs states that the unit status is online but provides no actual operating data that corroborates the statement. The CAISO denied these disputes, as shown on the attached dispute forms,¹¹⁴ and has been unable to locate any record that MMC submitted operating logs for any other Trading Days from July through September 2007, as claimed in its Complaint.

For purposes of this Answer, the CAISO has reviewed its data and verified that for each of the time periods for which the CAISO issued No Pay Charges to rescind Spinning Reserve payments for unconnected capacity from July through September 2007, MMC’s aggregated

The Ancillary Services standards are as follows:

Spinning Reserve: Spinning Reserve is generation that is already on-line, or “spinning”, with additional capacity that is capable of ramping over a specified range within 10 minutes and running for at least two hours.

Non-Spinning reserve: Non-Spinning Reserve is generation that is available but not on-line, that is capable of being synchronized and ramping to a specified level within 10 minutes, and then capable of producing dispatched energy for at least two hours.

¹¹² Complaint at 42.

¹¹³ Borchardt Declaration at ¶ 13. Specifically, MMC through its Scheduling Coordinator has challenged the No Pay Charges assessed on Trade Dates September 15, 18, 20, 21, 22, and 24, 2007.

¹¹⁴ See MMC’s Settlement Dispute Forms, copy is attached hereto as Exhibit N.

resource was off-line and not spinning.¹¹⁵ The CAISO utilizes EMS/Pi data to determine the connectivity of all resources, including MMC's three aggregated unit configurations.¹¹⁶ The EMS system employs a unit connectivity ("UCON") tag unique to each resource.¹¹⁷ If either unit in an aggregated configuration is connected, then the aggregate UCON tag will indicate that the resource is connected.¹¹⁸ The CAISO has carefully reviewed the UCON data associated with the July, August, September 2007 Trading Days and confirmed that the UCON tags of the aggregate resources were "off" during the hours for which the CAISO rescinded MMC's Spinning Reserve capacity payments.¹¹⁹ The CAISO also verified that there was no telemetry or communication error at any time during July, August, and September 2007.¹²⁰ In addition, the CAISO has checked to ensure that, in hours when MMC's aggregate UCON tags were off, the circuit breaker and voltage (kV) values were consistent with an off-line UCON status.¹²¹ If the voltage is greater than zero and the circuit breaker is closed, then the UCON will read "on." CAISO engineers have confirmed that for each date at issue the voltage was either zero or the Circuit breaker was open, which indicates that during the relevant timeframe the aggregate resource was not connected to the grid and, therefore, not spinning.¹²²

Even setting aside the issue of the host/CT aggregation, the CAISO correctly determined that for the Trading Days at issue in July, August and September 2007, MMC's resources were *unconnected* and therefore unavailable under CAISO Tariff Section 8.10.2.2. Consequently, they were properly subject to No Pay Charges under the CAISO Tariff for the awarded Spinning Reserve capacity. The Commission should dismiss, as baseless and unsupported, MMC's

¹¹⁵ Borchardt Declaration at ¶ 15.

¹¹⁶ *Id.* at ¶ 16.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.* at ¶ 17. *See also* Exhibit O, which is a representative screen shot of the 4-second Pi data that shows the aggregated resource was not connected to the grid.

¹²⁰ Borchardt Declaration at ¶ 17.

¹²¹ *Id.*

¹²² *Id.*

request that the CAISO pay MMC \$265,018 for Spinning Reserve capacity that was unavailable on the July, August and September Trade Dates at issue.

G. The CAISO Is Free to Raise the Possibility of Recoupment in Settlement Negotiations

MMC distorts comments made in what CAISO officials believes were intended by all to be confidential settlement discussions. As part of those discussions, CAISO officials raised the possibility that the CAISO might refrain from seeking recoupment of MMC's Spinning Reserve revenues as part of a settlement that would avoid litigation. These statements were never intended as a threat of punishment, but rather as a basis for compromise. It was entirely appropriate for the CAISO during such negotiations to make its legal position known and explore possible grounds for compromise in exchange for avoiding costly litigation.

What is not appropriate is MMC's disclosure of what it purports to be the substance of matters discussed in the negotiations. However, even though it made the disclosure in its Complaint, MMC has pointed to no statute, regulation, or Commission order that has been violated by the CAISO's alleged actions or "threats." In accordance with Rule 206(b), this portion of MMC's complaint must be dismissed for failure to explain "how the action or inaction violates applicable statutory standards or regulatory requirements."¹²³

WHEREFORE, for the reasons stated above, the CAISO respectfully requests that the Commission issue an order on the merits based on the pleadings: (i) granting the CAISO's motion for summary disposition and finding that the CAISO Tariff requires Spinning Reserve to be capacity that is synchronized and immediately responsive to system frequency, (ii) summarily disposing of MMC's demand to provide a product falling outside that definition on a grandfathered basis or otherwise; (iii) rejecting MMC's claim to undue discrimination on the

¹²³ 18 C.F.R. § 385.206(b) ("A complaint must: . . . Explain how the action or inaction violates applicable statutory standards or regulatory requirements").

ground that it has failed to point to any unduly discriminatory actions by the CAISO; (iv) rejecting MMC's detrimental reliance theory as in conflict with longstanding precedent on the Filed Rate Doctrine, (v) dismiss, as unsupported by the record evidence, MMC's request for the purported \$522,188 in revenues that the CAISO properly rescinded through No Pay charges, and (vi) finding that the CAISO was free to raise the possibility of recoupment in settlement negotiations.

Dated this 14th day of April, 2008

Respectfully submitted,

Beth Ann Burns
Paul H. Dobson
Senior Counsel
California Independent System
Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630

/s/ Mary Anne Sullivan
Mary Anne Sullivan
Karin L. Larson
Samuel T. Walsh
Hogan & Hartson L.L.P.
555 Thirteenth Street, N.W.
Washington, D.C. 20004

Counsel for
California Independent System
Operator Corporation

CERTIFICATE OF SERVICE

I hereby certify that I have served this day copies of the foregoing filing on the official service list compiled by the Office of Secretary in accordance with the Commission Rules of Practice and Procedure.

Dated at Washington, D.C. this 14th day of April, 2008.

/s/ Karin L. Larson

Karin L. Larson
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Volume I

Public

Exhibit A

Reliability Standard BAL-STD-002-0

A. Introduction

- 1. Title:** Operating Reserves
- 2. Number:** BAL-STD-002-0
- 3. Purpose:** Regional Reliability Standard to address the Operating Reserve requirements of the Western Interconnection.

4. Applicability

4.1.1 This criterion applies to each Responsible Entity that is (i) a Balancing Authority or a member of a Reserve Sharing Group that does not designate its Reserve Sharing Group as its agent, or (ii) a Reserve Sharing Group. A Responsible Entity that is a Balancing Authority and a member of a Reserve Sharing Group is subject to this criterion only as described in Section A.4.1.2. A Responsible Entity that is a member of a Reserve Sharing Group is not subject to this criterion on an individual basis.

4.1.2 Responsible Entities that are members of a Reserve Sharing Group may designate in writing to WECC a Responsible Entity to act as agent for purposes of this criterion for each such Reserve Sharing Group. Such Reserve Sharing Group agents shall be responsible for all data submission requirements under Section D of this Reliability Agreement. Unless a Reserve Sharing Group agent identifies individual Responsible Entities responsible for noncompliance at the time of data submission, sanctions for noncompliance shall be assessed against the agent on behalf of the Reserve Sharing Group, and it shall be the responsibility of the members of the Reserve Sharing Group to allocate responsibility for such noncompliance. If a Responsible Entity that is a member of a Reserve Sharing Group does not designate in writing to WECC a Responsible Entity to act as agent for purposes of this criterion for each such Reserve Sharing Group, such Responsible Entity shall be subject to this criterion on an individual basis.

- 5. Effective Date:** This Western Electricity Coordinating Council Regional Reliability Standard will be effective when approved by the Federal Energy Regulatory Commission under Section 215 of the Federal Power Act. This Regional Reliability Standard shall be in effect for one year from the date of Commission approval or until a North American Standard or a revised Western Electricity Coordinating Council Regional Reliability Standard goes into place, whichever occurs first. At no time shall this regional Standard be enforced in addition to a similar North American Standard.

B. Requirements

WR1.

The reliable operation of the interconnected power system requires that adequate generating capacity be available at all times to maintain scheduled frequency and avoid loss of firm load following transmission or generation contingencies. This generating capacity is necessary to:

- supply requirements for load variations.
- replace generating capacity and energy lost due to forced outages of generation or transmission equipment.
- meet on-demand obligations.

WECC Standard BAL-STD-002-0 – Operating Reserves

- replace energy lost due to curtailment of interruptible imports.
- a. Minimum Operating Reserve. Each Balancing Authority shall maintain minimum Operating Reserve which is the sum of the following:
 - (i) Regulating reserve. Sufficient Spinning Reserve, immediately responsive to Automatic Generation Control (AGC) to provide sufficient regulating margin to allow the Balancing Authority to meet NERC's Control Performance Criteria (see BAL-001-0).
 - (ii) Contingency reserve. An amount of Spinning Reserve and Nonspinning Reserve (at least half of which must be Spinning Reserve), sufficient to meet the NERC Disturbance Control Standard BAL-002-0, equal to the greater of:
 - (a) The loss of generating capacity due to forced outages of generation or transmission equipment that would result from the most severe single contingency; or
 - (b) The sum of five percent of the load responsibility served by hydro generation and seven percent of the load responsibility served by thermal generation.

The combined unit ramp rate of each Balancing Authority's on-line, unloaded generating capacity must be capable of responding to the Spinning Reserve requirement of that Balancing Authority within ten minutes

 - (iii) Additional reserve for interruptible imports. An amount of reserve, which can be made effective within ten minutes, equal to interruptible imports.
 - (iv) Additional reserve for on-demand obligations. An amount of reserve, which can be made effective within ten minutes, equal to on-demand obligations to other entities or Balancing Authorities.
- b. Acceptable types of Nonspinning Reserve. The Nonspinning Reserve obligations identified in subsections a(ii), a(iii), and a(iv), if any, can be met by use of the following:
 - (i) interruptible load;
 - (ii) interruptible exports;
 - (iii) on-demand rights from other entities or Balancing Authorities;
 - (iv) Spinning Reserve in excess of requirements in subsections a(i) and a(ii); or
 - (v) off-line generation which qualifies as Nonspinning Reserve.
- c. Knowledge of Operating Reserve. Operating Reserves shall be calculated such that the amount available which can be fully activated in the next ten minutes will be known at all times.

WECC Standard BAL-STD-002-0 – Operating Reserves

- d. Restoration of Operating Reserve. After the occurrence of any event necessitating the use of Operating Reserve, that reserve shall be restored as promptly as practicable. The time taken to restore reserves shall not exceed 60 minutes (Source: WECC Criterion)

C. Measures

WM1.

Except within the first 60 minutes following an event requiring the activation of Operating Reserves, a Responsible Entity identified in Section A.4 must maintain 100% of required Operating Reserve levels based upon data averaged over each clock hour. Following every event requiring the activation of Operating Reserves, a Responsible Entity identified in Section A.4 must re-establish the required Operating Reserve levels within 60 minutes. (Source: Compliance Standard)

D. Compliance

1. Compliance Monitoring Process

1.1 Compliance Monitoring Responsibility

Western Electricity Coordinating Council (WECC)

1.2 Compliance Monitoring Period

At Occurrence and Quarterly

By no later than 5:00 p.m. Mountain Time on the first Business Day following the day on which an instance of non-compliance occurs (or such other date specified in Form A.1(a)), the Responsible Entities identified in Section A.4 shall submit to the WECC office Operating Reserve data in Form A.1(a) (available on the WECC web site) for each such instance of non-compliance. On or before the tenth day of each calendar quarter (or such other date specified in Form A.1(b)), the Responsible Entities identified in Section A.4 (including Responsible Entities with no reported instances of non-compliance) shall submit to the WECC office a completed Operating Reserve summary compliance Form A.1(b) (available on the WECC web site) for the immediately preceding calendar quarter.

1.3 Data Retention

Data will be retained in electronic form for at least one year. The retention period will be evaluated before expiration of one year to determine if a longer retention period is necessary. If the data is being reviewed to address a question of compliance, the data will be saved beyond the normal retention period until the question is formally resolved. (Source: NERC Language)

1.4. Additional Compliance Information

For purposes of applying the sanctions specified in Sanction Table for violations of this criterion, the “Sanction Measure” is Average Generation and the “Specified Period” is the most recent calendar month. (Source: Sanctions)

2. Levels of Non-Compliance

Sanction Measure: Average Generation

WECC Standard BAL-STD-002-0 – Operating Reserves

2.1. Level 1: There shall be a Level 1 non-compliance if any of the following conditions exist:

2.1.1 One instance during a calendar month in which the Balancing Authority's or the Reserve Sharing Group's Operating Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve.

2.2. Level 2: There shall be a Level 2 non-compliance if any of the following conditions exist:

2.2.1 One instance during a calendar month in which the Balancing Authority's or the Reserve Sharing Group's Operating Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve.

2.3. Level 3: There shall be a Level 3 non-compliance if any of the following conditions exist:

2.3.1 One instance during a calendar month in which the Balancing Authority's or the Reserve Sharing Group's Operating Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve.

2.4. Level 4: There shall be a Level 4 non-compliance if any of the following conditions exist:

2.4.1 One instance during a calendar month in which the Balancing Authority's or the Reserve Sharing Group's Operating Reserve is less than 70% of the required Operating Reserve.

E. Regional Differences

Version History – Shows Approval History and Summary of Changes in the Action Field

Version	Date	Action	Change Tracking
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Sanction Table

Sanctions for non-compliance with respect to each criterion in Section B Requirements shall be assessed pursuant to the following table. All monetary sanctions shall also include sending of Letter (B).

Level of Non-compliance	Number of Occurrences at a Given Level within Specified Period			
	1	2	3	4 or more
Level 1	Letter (A)	Letter (B)	Higher of \$1,000 or \$1 per MW of Sanction Measure	Higher of \$2,000 or \$2 per MW of Sanction Measure
Level 2	Letter (B)	Higher of \$1,000 or \$1 per MW of Sanction Measure	Higher of \$2,000 or \$2 per MW of Sanction Measure	Higher of \$4,000 or \$4 per MW of Sanction Measure
Level 3	Higher of \$1,000 or \$1 per MW of Sanction Measure	Higher of \$2,000 or \$2 per MW of Sanction Measure	Higher of \$4,000 or \$4 per MW of Sanction Measure	Higher of \$6,000 or \$6 per MW of Sanction Measure
Level 4	Higher of \$2,000 or \$2 per MW of Sanction Measure	Higher of \$4,000 or \$4 per MW of Sanction Measure	Higher of \$6,000 or \$6 per MW of Sanction Measure	Higher of \$10,000 or \$10 per MW of Sanction Measure

Letter (A): Letter to Responsible Entity’s Chief Executive Officer informing the Responsible Entity of noncompliance with copies to NERC, WECC Member Representative, and WECC Operating Committee Representative¹.

Letter (B): Identical to Letter (A), with additional copies to (i) Chairman of the Board of Responsible Entity (if different from Chief Executive Officer), and to (ii) state or provincial regulatory agencies with jurisdiction over Responsible Entity, and, in the case of U.S. entities, FERC, and Department of Energy, if such government entities request such information.

The “Specified Period” and the “Sanction Measure” are as specified in Section D1.4 for each criterion.

Sanctions shall be assessed for all instances of non-compliance within a Specified Period. For example, if a Responsible Entity had two instances of Level 1 non-compliance and

¹ Copies of Letter A and Letter B will be sent to WECC Member Representative and WECC Operating Committee Representative when the Generator Operator is a WECC member.

WECC Standard BAL-STD-002-0 – Operating Reserves

one instance of Level 3 non-compliance for a specific criterion in the first Specified Period, it would be assessed the sanction from Column 2 of the Level 1 row, and the sanction from Column 1 of the Level 3 row.

If the Responsible Entity fails to comply with a given criterion for two or more consecutive Specified Periods, the sanctions assessed at each level of noncompliance for the most recent Specified Period shall be the sanction specified in the column immediately to the right of the indicated sanction. For example, if a Responsible Entity fails to comply with a given criterion for two consecutive Specified Periods, and in the second Specified Period the Responsible Entity has one instance of Level 1 non-compliance and two instances of Level 3 non-compliance, it would be assessed the sanction from Column 2 of the Level 1 row, and the sanction from Column 3 of the Level 3 row. If the sanction assessed at the highest level is the sanction in Column 4, no such modification of the specified sanction shall occur.

DEFINITIONS

Unless the context requires otherwise, all capitalized terms shall have the meanings assigned in this Standard and as set out below:

Area Control Error or **ACE** means the instantaneous difference between net actual and scheduled interchange, taking into account the effects of Frequency Bias including correction for meter error.

Automatic Generation Control or **AGC** means equipment that automatically adjusts a Control Area's generation from a central location to maintain its interchange schedule plus Frequency Bias.

Average Generation means the total MWh generated within the Balancing Authority Operator's Balancing Authority Area during the prior year divided by 8760 hours (8784 hours if the prior year had 366 days).

Business Day means any day other than Saturday, Sunday, or a legal public holiday as designated in section 6103 of title 5, U.S. Code.

Disturbance means (i) any perturbation to the electric system, or (ii) the unexpected change in ACE that is caused by the sudden loss of generation or interruption of load.

Extraordinary Contingency shall have the meaning set out in Excuse of Performance, section B.4.c.

Frequency Bias means a value, usually given in megawatts per 0.1 Hertz, associated with a Control Area that relates the difference between scheduled and actual frequency to the amount of generation required to correct the difference.

Nonspinning Reserve means that Operating Reserve not connected to the system but capable of serving demand within a specified time, or interruptible load that can be removed from the system in a specified time.

Operating Reserve means that capability above firm system demand required to provide for regulation, load-forecasting error, equipment forced and scheduled outages and local area protection. Operating Reserve consists of Spinning Reserve and Nonspinning Reserve.

Spinning Reserve means unloaded generation which is synchronized and ready to serve additional demand. It consists of Regulating reserve and Contingency reserve (as each are described in Sections B.a.i and ii).

EXCUSE OF PERFORMANCE

A. Excused Non-Compliance

Non-compliance with any of the reliability criteria contained in this Standard shall be excused and no sanction applied if such non-compliance results directly from one or more of the actions or events listed below.

B. Specific Excuses

1. Governmental Order

The Reliability Entity's compliance with or action under any applicable law or regulation or other legal obligation related thereto or any curtailment, order, regulation or restriction imposed by any governmental authority (other than the Reliability Entity, if the Reliability Entity is a municipal corporation or a federal, state, or provincial governmental entity or subdivision thereof).

2. Order of Reliability Coordinator

The Reliability Entity's compliance or reasonable effort to comply with any instruction, directive, order or suggested action ("Security Order") by the WECC Reliability Coordinator for the WECC sub-region within which the Reliability Entity is operating, provided that the need for such Security Order was not due to the Reliability Entity's non-compliance with (a) the WECC Reliability Criteria for Transmission System Planning, (b) the WECC Power Supply

Design Criteria, (c) the WECC Minimum Operating Reliability Criteria, or (d) any other WECC reliability criterion, policy or procedure then in effect (collectively, “WECC Reliability Standards”), and provided further that the Reliability Entity in complying or attempting to comply with such Security Order has taken all reasonable measures to minimize Reliability Entity’s non-compliance with the reliability criteria.

3. Protection of Facilities

Any action taken or not taken by the Reliability Entity which, in the reasonable judgment of the Reliability Entity, was necessary to protect the operation, performance, integrity, reliability or stability of the Reliability Entity’s computer system, electric system (including transmission and generating facilities), or any electric system with which the Reliability Entity’s electric system is interconnected, whether such action occurs automatically or manually; provided that the need for such action or inaction was not due to Reliability Entity’s non-compliance with any WECC Reliability Standard and provided further that Reliability Entity could not have avoided the need for such action or inaction through reasonable efforts taken in a timely manner. Reasonable efforts shall include shedding load, disconnecting facilities, altering generation patterns or schedules on the transmission system, or purchasing energy or capacity, except to the extent that the Reliability Entity demonstrates to the WECC Staff and/or the RCC that in the particular circumstances such action would have been unreasonable.

4. Extraordinary Contingency

- a. Any Extraordinary Contingency (as defined in subsection c); provided that this provision shall apply only to the extent and for the duration that the Extraordinary Contingency actually and reasonably prevented the Reliability Entity from complying with any applicable reliability criteria; and provided further that Reliability Entity took all reasonable efforts in a timely manner to mitigate the effects of the Extraordinary Contingency and to resume full compliance with all applicable reliability criteria contained in this Reliability Agreement. Reasonable efforts shall include shedding load, disconnecting facilities, altering generation patterns or schedules on the transmission system, or purchasing energy or capacity, except to the extent that the Reliability Entity

demonstrates to the WECC Staff and/or the RCC that in the particular circumstances such action would have been unreasonable. Reasonable efforts shall not include the settlement of any strike, lockout or labor dispute.

- b. Any Reliability Entity whose compliance is prevented by an Extraordinary Contingency shall immediately notify the WECC of such contingency and shall report daily or at such other interval prescribed by the WECC the efforts being undertaken to mitigate the effects of such contingency and to bring the Reliability Entity back into full compliance.
- c. An Extraordinary Contingency means any act of God, actions by a non-affiliated third party, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, earthquake, explosion, accident to or breakage, failure or malfunction of machinery or equipment, or any other cause beyond the Reliability Entity's reasonable control; provided that prudent industry standards (e.g., maintenance, design, operation) have been employed; and provided further that no act or cause shall be considered an Extraordinary Contingency if such act or cause results in any contingency contemplated in any WECC Reliability Standard (e.g., the "Most Severe Single Contingency" as defined in the WECC Reliability Criteria or any lesser contingency).

5. Participation in Field Testing

Any action taken or not taken by the Reliability Entity in conjunction with the Reliability Entity's involvement in the field testing (as approved by either the WECC Operating Committee or the WECC Planning Coordination Committee) of a new reliability criterion or a revision to an existing reliability criterion where such action or non-action causes the Reliability Entity's non-compliance with the reliability criterion to be replaced or revised by the criterion being field tested; provided that Reliability Entity's non-compliance is the result of Reliability Entity's reasonable efforts to participate in the field testing.

**California Independent System Operator Corp.
Motion for Summary Disposition and Answer
Docket No. EL08-46-000**

Exhibit B

November 30, 2007 Market Notice

CALIFORNIA ISO MARKET NOTICE

Requested Client Action: Information Only

Date of Distribution: November 30, 2007

Categories: Grid Operation, Legal/ Regulatory, Market Operations

Subject: CAISO Proposal for Spinning Reserve Certification

Summary: The CAISO has completed the stakeholder initiative on Spinning Reserve Certification and reminds all Market Participants to comply with the CAISO Tariff requirements for providing Spinning Reserve.

Main Text: On June 13, 2007 the California ISO (CAISO) issued a Market Notice and posted a whitepaper entitled "Proposal for Spinning Reserve Certification" to commence a stakeholder initiative on Spinning Reserve Certification. The stakeholder initiative was undertaken as part of a CAISO effort to review its certification process for Spinning Reserve Capacity and the bidding practices of Aggregated Units to ensure that the Spinning Reserve service the CAISO procures from the Aggregated Units is in fact provided and complies with the CAISO Tariff and the Western Electricity Coordinating Council (WECC) Minimum Operating Reliability Criteria (MORC).

Through this initiative, the CAISO offered multiple opportunities for stakeholders to provide comments and suggestions for the CAISO's consideration as part of its review of Spinning Reserve certification. The CAISO received input from stakeholders through written comments and discussion of the whitepaper in conference calls held on June 26, 2007 and August 7, 2007. In response to stakeholder comments received following the August 7, 2007 conference call, the CAISO posted a Supplement to Proposal for Spinning Reserve Certification to provide additional information about its proposal and the focus of this issue. A follow-up conference call was then held on September 27, 2007 to obtain stakeholder comment on that supplemental whitepaper. The CAISO thanks the stakeholders who participated in this process.

This stakeholder initiative is now being closed. The CAISO has determined that the Tariff clearly sets forth the requirements for providing Spinning Reserve and contains the necessary monitoring and enforcement mechanisms for the CAISO to ensure that all Market Participants, including aggregated units, comply with these requirements. Accordingly, the CAISO has decided not to file a Tariff amendment related to the Spinning Reserve provisions at this time.

The CAISO, however, reminds Market Participants that Spinning Reserve is defined by the CAISO Tariff as, the "portion of unloaded synchronized generating capacity that is immediately responsive to system frequency and that is capable of being loaded in ten-minutes, and that is capable of running for at least two hours". Under CAISO Tariff, Section 37.3.1.1, Market Participants "must bid and schedule Energy and Ancillary Services from resources that are reasonably expected to be available and capable of performing at the levels specified in the bid and/or schedule, and to remain available and capable of so performing based on all information that is known to the Market Participant or should have been known to the Market Participant at the time of bidding or scheduling".

The CAISO also conforms to the WECC MORC for procurement of Operating Reserves, including Spinning Reserves and Non-Spinning Reserves, to ensure that adequate generating capacity is available at all times to maintain scheduled frequency and to prevent the loss of firm load during contingency events. If the Spinning Reserves procured or self-provided in the forward Ancillary Services markets fail to perform to real-time dispatch and frequency response requirements, the CAISO's ability to respond to system needs may be compromised and could lead to system reliability and stability problems.

In order to comply with the requirements of the CAISO Tariff and to meet the WECC MORC for Spinning Reserve, the CAISO reminds all Market Participants awarded Spinning Reserves of the following requirements and

capabilities:

- Governors must be properly tuned and in-service in order for the Generating Unit(s) to be frequency responsive;
- Telemetry between the Generating Units and the CAISO's Energy Management System must be maintained and functional;
- The aggregated Generating Units' unloaded capacity must be equal to or greater than the awarded Spinning Reserve capacity;
- The entire awarded Spinning Reserve capacity must be synchronized to the Grid; and must be synchronized to the Grid at the beginning of the interval awarded.
- The awarded Spinning Reserve capacity must be converted to energy within ten minutes of notification.

For More Information Contact: Clyde Loutan at cloutan@caiso.com



California ISO
Your Link to Power

The California ISO strives to be a world-class electric transmission organization built around a globally recognized and inspired team providing cost-effective and reliable service, well-balanced energy market mechanisms, and high-quality information for the benefit of our customers.

151 Blue Ravine Road, Folsom, CA 95630

Click [here](#) to update your profile or unsubscribe.

EA/ComPR/IPS/ds



Exhibit C

Declaration of Clyde Loutan

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

MMC Energy, Inc.)	
Complainant,)	
)	
v.)	Docket No. EL08-46-000
)	
California Independent System)	
Operator Corporation)	
Respondent.)	

**DECLARATION OF CLYDE LOUTAN IN SUPPORT OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION'S
ANSWER TO MMC ENERGY, INC.'S COMPLAINT**

I, Clyde Loutan, declare under penalty of perjury that the following is true and correct:

1. I am a Senior Engineer employed by the California Independent System Operator Corporation ("CAISO"). I am a certified professional engineer in the State of California (Lic. #: E13080). My business address is 151 Blue Ravine Road, Folsom, CA 95630.
2. I am submitting this Declaration in support of the CAISO's Answer to MMC Energy, Inc.'s ("MMC") Complaint in the above-referenced proceeding regarding MMC's provision of Spinning Reserve.
3. I have provided technical support to Grid Operations since 1999. I have both a BS and MS degree in Electrical Engineering with an emphasis in power systems. I have over 22 years of professional experience in the electric utility business. Presently, I serve on the Western Electricity Coordinating Council ("WECC") Frequency Responsive Reserve and the WECC Contingency Reserve (BAL-002-WECC-1) drafting teams. I also serve on the North American Electric Reliability Corporation ("NERC") Frequency Responsive Reserve and the NERC Reliability Based Control Standards drafting teams. My education and professional

experience have given me expertise on, but not limited to, the operational characteristics of electric generation ancillary services used in the operation of the CAISO electric transmission grid (“Grid”), including Spinning Reserve.

4. Ancillary services under the CAISO Tariff consist of Regulation, Spinning Reserve and Non-Spinning Reserve. Spinning Reserve and Non-Spinning Reserve bid as an amount of capacity available to be dispatched as energy to respond to a disturbance in the Grid resulting from a sudden loss of a resource.

5. Spinning Reserve has characteristics that support the reliability of the Grid that Non-Spinning Reserve does not have. The synchronization of the collective awarded capacity of Spinning Reserve provides a real-time benefit because it is connected to the Grid and available to provide immediate response to system needs. For example, the spinning generators provide an immediate inertial response that arrests the rapid decline in frequency in real-time following a disturbance on the system. The more capacity that is on-line and spinning, the more inertia is available to stabilize the system following the loss of a generating resource.

6. Immediate and automatic responsiveness to frequency deviations is provided by the natural response from frequency-responsive loads and generators synchronized to the Grid. Synchronized generators equipped with governors will ramp up or down to arrest frequency deviations before regulation and other ancillary services are dispatched. Frequency response is automatically deployed from unloaded synchronized generating units within 15 to 20 seconds following a disturbance on the system. Following the loss of a generating unit, frequency response from unloaded synchronized generators arrest frequency decline and

helps support the Interconnection frequency. Without the ability to immediately arrest a decline in frequency following a disturbance, reliability is compromised.

7. MMC bids for Spinning Reserve using aggregated units at each of its three generation facilities. MMC's aggregation is comprised of a 20kW internal combustion engine and a combustion turbine ("CT") generator. When awarded Spinning Reserve capacity in 2006 and 2007, MMC operated its aggregation with the host unit synchronized to the Grid and the CT off-line. Operating the aggregation in this manner does not provide the benefits of the above described characteristics because its small generator can provide only a tiny fraction of the inertia that would result from the total amount of generation capacity MMC claims is providing Spinning Reserve. This MMC product is not Spinning Reserve.

8. Currently, out of the more than 700 generation units connected to the Grid, 191 generation units are certified to provide Spinning Reserve and of those, 50 are aggregates. Aggregated units account for more than 8,200 MW of Spinning Reserve. The host/CT aggregation has been employed by just six aggregates operated by two companies, Wellhead Electric, and MMC. The six aggregates account for a total of approximately 217 MW.

9. If more aggregated units were to bid Spinning Reserve in the manner similar to MMC, and the CAISO relied on those bids to meet its Spinning Reserve obligation, the Western Interconnection may not be able to stabilize itself following a disturbance, which could result in the potential loss of load or cascading outages could be imminent following the loss of a major resource.

10. In April, 2006, I first learned of the host/CT aggregation bidding Spinning Reserve with the CT off during the hour(s) the Spinning Reserve bid was awarded. At that time, two units of the Wellhead Electric Company with this configuration had been certified for

Spinning Reserve. The first of these units was certified in November, 2005. After carefully reviewing the situation, I discovered that the decision to consider the host/CT aggregation as providing Spinning Reserve that included the capacity of the off CT, was made at a technical staff level and had not been reviewed or approved at the management or officer level of the CAISO. In a May 16, 2006 internal meeting, I briefed senior CAISO staff, including management, on the technical requirements for Spinning Reserve and reliability concerns associated with an host/CT aggregation bidding Spinning Reserve.

11. On June 28, 2006, I brought this issue before the WECC Minimum Operating Reliability Criteria Workgroup. The workgroup prepares and recommends changes to the operating policies, guidelines, regional criteria and standards to maintain an acceptable level of operating reliability within the Western Interconnection. The workgroup confirmed that in order to qualify for Spinning Reserve, the total unloaded capacity that is counted towards Spinning Reserve must be synchronized to the Grid and be responsive to frequency deviation. Any off-line capacity cannot qualify for Spinning Reserve and is certainly not frequency responsive. A true copy of the minutes of the workgroup meeting is attached hereto.

12. I prepared the market notices, dated August 31, 2006, September 18, 2006, June 13, 2007, and November 30, 2007, and the CAISO white papers dated June 4, 2007 and September 20, 2007 referenced in the Answer. True copies of those documents are attached to the Answer; the information in them is accurate to the best of my knowledge.

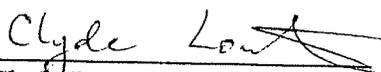
13. ECCO International, Inc.'s July 2007 Comments submitted as an attachment to MMC's comments in the CAISO's Spinning Reserve Certification stakeholder initiative, correctly states the theory of power systems control concepts in interconnected power systems. However, ECCO International does not address the requirements of Spinning

Reserve and why MMC does or does not meet them. In discussing Frequency Response as a separate product, it fails to differentiate between theory and actual operating practice.

Currently, there is no WECC or NERC approved Frequency Response standard and Frequency Response is not available as a separate, stand-alone Market product. Spinning Reserve is relied on by CAISO for the reasons I stated above. Because of its characteristics, Spinning Reserve is a more costly product than Non-Spinning Reserve. The ECCO International comments are not germane to the CAISO definition of Spinning Reserve.

14. If called as a witness, I would testify to the veracity of the matters set forth herein.

Dated this 11 th day of April, 2008


Clyde Loutan
Senior Engineer

ATTACHMENT

WESTERN ELECTRICITY COORDINATING COUNCIL
MINIMUM OPERATING RELIABILITY CRITERIA WORK GROUP MEETING

June 27, 2006 – 1:00 p.m. to 5:00 p.m.

June 28, 2006 – 8:00 a.m. to 5:00 p.m.

Xcel Energy Offices
1099 18th Street, Suite 3000
Executive Conference Room

Meeting Minutes

I. Welcome, Introductions and Meeting Information – Chair David Lemmons

Joe Medina	APS	602-250-1136
Ken Otto	WAPA	970-240-6200
David Lemmons	Xcel	303-308-6120
Clyde Loutan	CISO	916-608-5917
Ben Williams	PG&E	415-973-9473
John Anasis	BPA	360-418-2263
Kenneth Wilson	WECC	801-582-0353

II. Approve Minutes

- A. March 27-28, 2006 MORCWG Meeting Minutes
- B. April 28, 2006 Frequency Responsive Reserve Task Force (FRRTF) Webcast Minutes
- C. May 23, 2006 FRRTF Webcast minutes

All the meeting minutes listed above were approved.

III. Approve Agenda

The agenda was approved

IV. The Minimum Operating Reliability Standard (MORS) Approval Process

- A. Operating Committee Posting and Approval

The OC Steering delayed the vote on the MORS posting.

The OC steering committee assigned the Regional Standards Task Force to recommend the standards WECC wants to submit to NERC as Regional standards.

B. Comments Regarding the MORS Posting

The Work Group reviewed Comments about MORS. Comments were submitted in response to the OC posting are of two types (1) editorial and typos and (2) changes to existing standards. The Regional Standards Task Force is reviewing the proposed MORS standards and determining which standards should be submitted to NERC as regional standards. The comments will be passed onto the Regional Standards Task Force. Once that review is complete, we can better respond.

V. Frequency Responsive Reserve (FRR) Discussion and Future Standard – David Lemmons

A. Review the work of the FRRTF

The work group reviewed the activities of the Frequency Responsive Reserve Task Force standard development. Some of the issues discussed are:

- The FRR white paper indicates that FRR will be distributed. The reason for the distribution is the 5% droop setting will only permit a generator to respond to 8.3% of the unit rating.
- WAPA indicated measurement accuracy is more questionable the closer to the FRR event.
- The hurdle and bench measurement philosophy was presented. Europe measures response with one second scan rates.

B. Schedule for Standard Development and Posting

The preliminary schedule for FRR development is as follow:

- Post FRR Standard for comment during the first week of August
- Draft responses to the comments during October.
- Post the FRR Standard for a second 60 day comment period during November and December.
- CMOPS review January 10-11, 2007
- Joint Meeting review March 6-8, 2007
- Board review April 24-27, 2007

VI. Spinning Reserve – Clyde Loutan

Clyde requested that the workgroup spend a few minutes to discussing/clarifying “what constitutes spinning reserve.” The following two scenarios were discussed:

- (1) A generating facility designed such that its Internal Combustion Engine (~200 kW) can operate synchronized to the grid while its associated Combustion Turbine remains off-line, and

- (2) Aggregated units whereby multiple units each having its own governor, AVR and PSS are aggregated under a single ID in order to simplify the process of participating in a market environment.

The workgroup concluded that in order to qualify for spinning reserve, the total unloaded capacity that is counted towards spinning reserve must be synchronized to the grid and be responsive to frequency deviation. Any off-line capacity cannot qualify for spinning reserve and is certainly not frequency responsive.

For aggregated units, at a minimum, the total capacity that is counted towards spinning reserve must be synchronized to the grid and be responsive to frequency deviation. For example, an aggregated 100 MW facility that is comprised of two 50 MW units each having a minimum load level of 10 MW must have both 50 MW units synchronized to the grid should the total capacity being counted towards spinning reserve exceed 40 MW.

The workgroup concluded that the existing WECC MORC language is self-explanatory.

VII. During MORC Review the Following Standards Were Identified as Needing Refinements

Refinements to each of the following standards were discussed.

Standard	Requirement	Refinement
BAL-STD-002	WRS5	The standard cannot be measure because it is vague. Refine the standard to make it measurable and clear.
BAL-STD-002	WRS7	Recommendation: Remove this standard. It is a requirement to disseminate operating reserve procedures. NERC has a standard very similar.
BAL-STD-004	WR3	This standard appears to be repetitive to one of the NERC requirements. Remove during the next draft.
BAL-STD-004	WSR1	This is not enforceable. This should be covered under time error correction. Recommend this be given to the Performance work group and incorporated into the time error procedure.
BAL-STD-005	WR8	Change the wording (from should to shall) to require a 4 second scan rate is a change to existing MORC. Control Areas, i.e. APS, has a 6 second scan rate. NERC is 6 seconds. Not all BAs are on 4 seconds. How is this measured? If it is through CPS, do we need this requirement? This is similar to NERC requirement of 6 seconds. Ask PWG if there is a

Standard	Requirement	Refinement
		need for 4 seconds or to review the standard?
BAL-STD-005	WRS1	This standard requires reserves be distributed. It is not measurable. Due to the differences in the size of control areas and generation resources, this is not enforceable. This is an operating practice that is good. No desire to move this forward as a standard. It may be desirable to have as a policy.
BAL-STD-006	WR2 and WR3	Consider MORC's recommendation later. Include in BAL-006 R12 & R13. MORCWG Agreed.
COM-STD-002 and TOP-STD-004	R2	There appears to be a conflict between these two standards. Covered in NERC Standards. See MORC. Note: this language conflicts with COM-002 WECC R2 (MORC Section 4.B.10). This is again impossible to ensure. It would need to be re-worked to create a standard that would be reasonable. We recommend both standards be dropped.
EOP-STD-004	WRS1	Ask the PWG if this standard should be refined to reference GPS time rather than the National Standards time. This is a requirement to keep everything on the same time period.
EOP-STD-004	WRS3	The language is not clear. Clarify the language.
INT-STD-004	WRS1	RCs cannot comply with the standard. Send the standard to RCS and visit the standard in the future. Covered in NERC version 1.
PER-STD-002	WR3	Note that training should be followed. Make a recommendation to OTS and UFAS. Send to OTC
PRC-STD-001	WRS2	Maximum utilization – the words are that relaying should not limit equipment (line) ratings. Visit this standard.
PRC-STD-007		WECC members are the owner of the off-nominal frequency load shedding and restoration plan. NERC is written differently. Review this standard with CMOPS. This is identified by NERC as a regional reliability standard that needs to be developed.
PRC-STD-007	WRS1.7	This needs to be clarified. MORCWG has questions about the standard. This has the potential to affect reliability at high voltage. Make this EOP-002 R7.6.1 and filed as regional standard.

Standard	Requirement	Refinement
TOP-STD-001	WRS1-3	Can an emergency be cause by a missed load forecast? Clarify paragraph 3 in next phase. Sixty (60) minutes is in BAL-STD-002. Make these standards policies.
TOP-STD-002	WR11.1 and WR11.2	Review standard. These standards need to be refined and drafted into a new WECC standard.
TOP-STD-002	WR11.3	Review Planning standard. Combine with WR11.1 and WR1.2. Note 1 of the table should be clarified and to indicate under what conditions.
TOP-STD-002	WR11.5	Clarify the language. Should “for the delivery and receipt of scheduled interchange” be removed?
TOP-STD-002	WR11.7	This standard needs a dispute resolution process. Covered by NERC FAC-012 and -013.
TOP-STD-002	WR12.1	Clean this standard up in the future. It is written poorly. This needs to stay in as a regional standard.
TOP-STD-004	WR2	Clarify with COM-STD-002.
VAR-STD-001	WRS4	Review in the future.
VAR-STD-001	WRS6	Review in the future.

VIII. Review Section 1.A.7 (BAL-STD-005) Distribution of Operating Reserve

WRS5. Operating reserve distribution. *Prudent operating judgment shall be exercised in distributing operating reserve, taking into account effective use of capacity in an emergency, time required to be effective, transmission limitations, and local area requirements. Spinning reserve should be distributed to maximize the effectiveness of governor action.*

Operating reserve distribution. Operating reserves must be distributed so that the full amount of energy can be produced from those reserves without causing violations of other operating standards. When determining distribution of operating reserve, operators must take into account effective use of capacity in an emergency, time required to be effective, current and potential transmission limitations, and local area

TOP-002 R7 has language that is very similar to the recommendation above.

Next step: Notification of standard development. Emergency request not needed because of the NERC Standard. Clarify the ambiguity of the standard. There is a NERC standard. This needs more thoughtful discussion.

Two assignments CMOPS log item 12 and standard request form.

MORC crafted language to formulate a response to the CMOPS log item.

IX. WECC Excitation System and Automatic Voltage Regulator Policy Statement

The policy statement is posted on the WECC web site as a standard under development. It is being reviewed by the OC/CWG.

X. Reviewed the Operating Reserve Task Force (ORSTF) work on BAL-002-1

The Operating Reserve Task Force's recommendations to refine the operating reserve standard in MORC were voted down at the Operating Committee. ORSTF is making refinements to the proposed standard that will grandfather existing contracts and delay implementation for one year after Board approval. (The implementation date may be January 1, 2008.) The standard will be posted for another 60 day comment period and be taken back to OC and MIC in October.

XI. EMSWG-ST-001-1 Reliability Data Exchange

This standard is posted on the WECC web site as a standard being developed.

XII. USF Curtailment Standard

Revisions to this standard are posted on the WECC web site.

XIII. Review Regional Reliability Standards Task Force

A. WECC

The Regional Standards Task Force is reviewing the proposed MORS standards and determining which standards should be submitted to NERC as regional standards.

B. NERC

The Regional Reliability Standards Working Group is developing a work plan to address NERC Reliability Standards that FERC identified as Fill-in-the-Blank standards. These NERC Standards require that the regions develop and enforce the standards.

XIV. Assign Work Items

XV. Next Meeting November 1-2, 2006 San Francisco, CA

XVI. 2007 Meeting Schedule

- A. February 8-9, 2007 Phoenix, AZ
- B. June 26-27, 2007 Calgary, AB
- C. November 1-2, 2007 Vancouver, BC

XVII. Adjourn

Attachments: WECC Anti-Trust Discussion Guidelines
Board Guidelines

C:\Documents and Settings\ken\My Documents\MORCWGMORCWG 6-27-06\MORC_minutes_6_27-28_2006.doc

Exhibit D

Declaration of Edward Fishback

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

MMC Energy, Inc.)	
Complainant,)	
)	
v.)	Docket No. EL08-46-000
)	
California Independent System)	
Operator Corporation)	
Respondent.)	

**DECLARATION OF EDWARD FISHBACK IN SUPPORT OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION'S
ANSWER TO MMC ENERGY, INC.'S COMPLAINT**

I, Edward Fishback, declare under penalty of perjury that the following is true and correct:

1. I am a project manager in the Grid Assets unit of the respondent California Independent System Operator Corporation ("CAISO"). My business address is 151 Blue Ravine Road, Folsom, CA 95630. I am submitting this Declaration in support of the CAISO's Answer to MMC Energy, Inc.'s ("MMC") Complaint in the above-referenced proceeding regarding MMC's provision of Spinning Reserve.
2. In 2005 and 2006 I was a project manager for New Resource Interconnections. My job as project manager was to shepherd a generator-applicant through the necessary steps to be connected to the CAISO transmission grid, including facilitating communications with CAISO staff responsible for ensuring the generation units meet CAISO requirements related to the connection to the grid including metering and telemetry, the execution of the Participating Generator Agreement and metering contract, and successful testing and certification. As project manager I was available to answer the

applicants' questions about the process. If I needed technical assistance, I would ask a staff member in the appropriate business unit for advice. My position was then, and is now, neither supervisory nor management. I have never represented myself as a member of the management or "senior staff" of the CAISO.

3. My discussions with applicants, including advice I provided was limited to routine information about the CAISO. I was instructed not to suggest the desirability of having a generation facility connected to the grid or a particular configuration of a generation facility or to comment on the marketability of any products or any proposed marketing strategies, and I have always followed those instructions.

4. In 2005, I was assigned as the project manager for MMC's applications to connect two of its generation units to the grid. As I recall, the first time I met with MMC officials was the "kick-off meeting" on November 3, 2005 held at CAISO's offices in Folsom. Also in attendance were Karl Miller and Martin Quinn from MMC and a number of CAISO staff, including Jacqueline DeRosa, the client representative, Roni Reese, a contracts specialist, James Alford, a metering specialist (likely by phone), and Mike O'Hara, a telemetry specialist. The meeting did not include any CAISO officer or even a member of CAISO management. The persons in attendance were the working staff level specialists who commented on the interconnection requirements for the facilities MMC was interested in purchasing. Each attendee would have been there to provide information and field questions related to his or her specialty.

5. None of the other CAISO staff present at the November 3, 2005 meeting discussed the issue of Spinning Reserve. I recall that near the end of the meeting Mr. Miller and Mr. Quinn mentioned that they were aware of another generation company that was

bidding Spinning Reserve on the basis of a small internal combustion engine generator aggregated with a large combustion turbine generator. This aggregation was operated such that the small generator would be synchronized to the grid while the large generator was off, but able to ramp to its capacity and be synchronized within 10 minutes. I stated that I was not going to tell him the name of another generator, but if he could state its name I could confirm or deny it was using the configuration. One of them said the company was Wellhead Electric Company and I confirmed that it was using that configuration.

6. I told Mr. Quinn that MMC could use the same configuration for Spinning Reserve. I recall explaining that all generators had to be frequency responsive and under governor control.

7. I have reviewed the affidavits filed by MMC in this matter. I have no recollection and no record of attending a meeting with or meeting Karl Miller, Martin Quinn and Denis Gagnon, or any one of them, prior to November 3, 2005.

8. I have no recollection of taking MMC officials on a tour of the CAISO on May 13, 2005, or at any other time. I believe that I did not. I did not have a conversation in May, 2005, or at any other time in which I suggested a configuration that MMC should consider for a generator unit. My advice in all my dealings with MMC staff and its consultant, Mr. Tom West, solely related to how to configure the aggregated units if MMC wanted to operate like Wellhead.

9. MMC did state to me that it was interested in the Spinning Reserve market and was intending to purchase the generators that it desired to use for that purpose. I did not know any of the financial details of the MMC business plan regarding these acquisitions.

I have not worked in the area of marketing of electrical services and energy and am not familiar with the pricing of ancillary services. I did not discuss marketing strategy with MMC.

10. If called as a witness, I would testify to the veracity of the matters set forth herein.

Dated this 10TH day of April, 2008.



Edward Fishback
Project Manager

Exhibit E

May 22, 2006 Detmers Letter



CALIFORNIA ISO

California Independent
System Operator

Jim Detmers
Vice President, Grid Operations

May 22, 2006

Mr. Martin V. Quinn
Principal and COO
MMC Energy North America, LLC
26 Broadway, Suite 907
New York, NY 10004

Dear Marty,

In response to your e-mail and letter dated May 10, 2006, and per our brief conversation at the California ISO on May 16, I wanted to provide to you an update regarding the CAISO's review of its certification process and requirements for Spinning Reserve capacity.

As you know, the CAISO has recently initiated an internal assessment of its process and requirements under which generators may participate in the Spinning Reserves ancillary services market to ensure that (1) all aggregated generating resources certified for Spinning Reserve comply with the ISO Tariff and WECC reliability criteria, and that (2) the CAISO administers its Spinning Reserve markets in a just and reasonable way, without preference or undue discrimination.

As we proceed with this review, I can assure you that the CAISO is committed to providing (1) transparency to market participants, (2) reasonable notice of any changes in the CAISO's technical standard and certification criteria, and (3) a reasonable opportunity for potentially affected suppliers to provide information relevant to the eligibility of their resources to provide Spinning Reserve.

As we discussed last week, the meeting that you referenced in your May 10 correspondence, was an internal CAISO inter-departmental meeting. On May 16, I offered that the CAISO could facilitate a conference call or meeting for you to provide your input on this matter. Please contact Jacqueline DeRosa, CAISO, at 916-608-1124 to coordinate a conference call with you on this matter.

It was a pleasure meeting with you last week and thank you for bringing your issues to our attention.

Thank you.

Sincerely,

Jim Detmers
Vice President of Operations
California Independent System Operator

cc: Armando Perez, Vice President of Planning & Infrastructure Development
Karen Edson, Vice President of External Affairs
Jacqueline DeRosa, Account Manager
Nancy Traweek, Director of Operations Support

Exhibit F

G-213 Operating Procedures, Version 5.0

 CALIFORNIA ISO <small>California Independent System Operator</small>	OPERATING PROCEDURE	Procedure No.	G-213
		Version No.	5.0
		Effective Date	7/19/05
Management of Ancillary Services Certification Testing		Distribution Restriction: None	

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 CALIFORNIA ISO <small>California Independent System Operator</small>	OPERATING PROCEDURE	Procedure No.	G-213
		Version No.	5.0
		Effective Date	7/19/05
Management of Ancillary Services Certification Testing		Distribution Restriction: None	

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 CALIFORNIA ISO <small>California Independent System Operator</small>	OPERATING PROCEDURE	Procedure No.	G-213
		Version No.	5.0
		Effective Date	7/19/05
Management of Ancillary Services Certification Testing		Distribution Restriction: None	

Purpose

Describes the process by which the CAISO certifies:

- Generating Units,
 - Curtailable Demand, and
 - System Resources that provide Ancillary Service (A/S).
-

1. General Testing Information and Requirements

Required Forms

Ancillary Services (A/S) Test Request Form

The A/S Test Request Form (Attachment A) must be submitted to the CAISO AS Notifications mailbox (asnotifications@caiso.com) *accurately and completely* prior to scheduling a test date with the A/S Test Administrator.

Resource Data Template (RDT)

There are certain associated data with PMax, PMin and Ramp Rate tests as required by MRTU Phase 1B and submitted on the Resource Data Template (RDT) that will need to be reviewed for changes at the time of an A/S test request; items for review include Heat Rate, Ramp Rate, and Forbidden Range data.

If changes are required based on new requested values, a Resource Data Template (RDT) must be completed and submitted to the CAISO A/S Test Administrator prior to the scheduling of an A/S test with the A/S Test Administrator. Upon request for an A/S test by the SC, the A/S Test Administrator will create the generating unit's RDT and email it to the requesting party. The SC must return the updated RDT, along with the A/S Test Request Form, before the A/S test date will be scheduled with the A/S Test Administrator. The values on the RDT should be based on the A/S test requested values.

A/S Administrator Test Form

The A/S Administrator Test Form (Attachment G) is utilized by the A/S Test Administrator to calculate and track testing results.

 CALIFORNIA ISO <small>California Independent System Operator</small>	OPERATING PROCEDURE	Procedure No.	G-213
		Version No.	5.0
		Effective Date	7/19/05
Management of Ancillary Services Certification Testing		Distribution Restriction: None	

**Testing Spin,
Non-Spin,
Replacement
Ramp Rate**

When testing the Spin, Non-Spin, and Replacement Ramp Rate of Generating Units, take the following steps:

Step	A/S Test Administrator Actions				
1	<p>Position Generating Unit start point for optimum response by allowing enough room for ten minutes of ramping at the Stated Ramp Rate.</p> <table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">If...</td> <td style="text-align: center;">Then...</td> </tr> <tr> <td>The testing is for Non-Spin and Replacement,</td> <td>Start off-line with unit completely shut down (see A/S Technical Information on Non-Spinning Reserve Testing and Replacement Reserves Certification.</td> </tr> </table>	If...	Then...	The testing is for Non-Spin and Replacement,	Start off-line with unit completely shut down (see A/S Technical Information on Non-Spinning Reserve Testing and Replacement Reserves Certification.
If...	Then...				
The testing is for Non-Spin and Replacement,	Start off-line with unit completely shut down (see A/S Technical Information on Non-Spinning Reserve Testing and Replacement Reserves Certification.				
2	Notify Plant Operator of start time (this contact is the Start Time) and request to increase the output at the maximum allowable rate until instructed to stop (10 minutes for Spin and Non-Spin, 60 minutes for Replacement), or P-max is reached.				
3	Record test start data on the A/S Administrator Test Form in <u>Attachment G</u> . Note the time by hr:mn:sc and record the MW level to one decimal place.				
4	Monitor MW level 10 minutes for Non-Spin, 60 minutes for Replacement Reserves or when Full Range is achieved, or until Generating Unit reaches P-max.				
5	Call an end of complete timed test.				
6	Record end data on the A/S Administrator Test Form in <u>Attachment G</u> . Note the time by hr:mn:sc and record the MW level to one decimal place.				

Exhibit G

August 31, 2006 Market Notice

From: CRCommunications
Sent: Thursday, August 31, 2006 11:33 AM
Subject: CAISO: Grid Operation, Legal and Regulatory, Market Operations, Settlements and Market Clearing / Ancillary Services - Spinning Reserve, Testing and Certification

Attachments: Picture (Metafile)

CALIFORNIA ISO MARKET NOTICE

Requested Client Action: Information Only

Date of Distribution: August 31, 2006

Categories: Grid Operation, Legal and Regulatory, Market Operations, Settlements and Market Clearing

Subject: Ancillary Services - Spinning Reserve, Testing and Certification

Summary: This Market Notice applies to Participating Generators, configured as an aggregation of multiple generating units, that are or will be scheduled for, compliance testing for Spinning Reserve certification.

Main Text: Earlier this year, the WECC Compliance Monitoring and Operating Practices Subcommittee (CMOPS) approved a white paper on Frequency Response Standard. The white paper outlined existing deficiencies in the quality of Spinning Reserve among all sub-regions in the WECC. This finding prompted the California ISO (CAISO) to evaluate its Spinning Reserve procurement to ensure it complies with the existing WECC Minimum Operating Reliability Criteria (MORC) and the CAISO Tariff. http://www.wecc.biz/documents/library/RITF/FRR_White_Paper_v12_1-27-06.pdf

During this evaluation, the CAISO will review its Tariff requirements, procedures, processes, and design guidelines (specifications) for the testing, certification, operation and bidding of Spinning Reserve resources. We will determine whether aggregated unit configurations where total awarded Spinning Reserve capacity is not synchronized to the system are consistent with MORC and the CAISO Tariff. We will also identify any deficiencies in existing CAISO testing and certification processes and procedures, design guidelines, and compliance programs related to aggregated unit configurations and will issue a white paper that contains our findings and recommendations. In the interim, the CAISO has suspended all Spinning Reserve testing on aggregated units where the total awarded Spinning Reserve capacity is not synchronized to the system.

For More Information Contact: Clyde Loutan: cloutan@caiso.com <<mailto:cloutan@caiso.com>>, (916) 608-5917 or Gary DeShazo: gdeshazo@caiso.com>, (916) 608-5880.



California ISO
Your Link to Power

The California ISO strives to be a world-class electric transmission organization built around a globally recognized and inspired team providing cost-effective and reliable service, well-balanced energy market mechanisms, and high-quality information for the benefit of our customers.

Exhibit H

September 18, 2006 Market Notice

From: CRCommunications [mailto:CRCommunications@caiso.com]
Sent: Monday, September 18, 2006 4:12 PM
Subject: CAISO: Legal/ Regulatory, Market Operations, Grid Operations / Ancillary Services - Spinning Reserve Requirements

CALIFORNIA ISO MARKET NOTICE

Requested Client Action: Information Only

Date of Distribution: September 18, 2006

Categories: Legal/ Regulatory, Market Operations, Grid Operations

Subject: Ancillary Services – Spinning Reserve Requirements

Summary: This Market Notice serves to remind all Participating Generators certified to provide Spinning Reserve that operating reserves must be feasible and able to perform consistent with the requirements and definitions in the California ISO (CAISO) Tariff and the applicable Western Electricity Coordinating Council (WECC) Minimum Operating Reliability Criteria (MORC). The CAISO is resuming the certification testing of new and existing Generating Units and aggregated Generating Units for participation in the CAISO Spinning Reserve Markets.

Main Text:

The CAISO conforms to the WECC MORC for procurement of Operating Reserves, including Spinning Reserves and Non-Spinning Reserves, to ensure that adequate generating capacity is available at all times to maintain scheduled frequency and to prevent the loss of firm load during contingency events. If the Spinning Reserves procured or self-provided in the forward Ancillary Services markets fail to perform to real-time dispatch and frequency response requirements, the CAISO's ability to respond to system needs may be compromised and could lead to system reliability and stability problems.

Recently there have been a few incidents where Generating Units that sold Spinning Reserves to the CAISO were not able to perform fully on the dispatch instruction. The CAISO undertook a preliminary review of these incidents and found that, in some cases, a portion of the awarded spin capacity from aggregated Generating Units had not been synchronized to the grid. In other cases, the Generating Units responded but were not able to dispatch all of the capacity as energy within the required ten-minute timeframe.

The purpose of this Market Notice is to emphasize the CAISO's bidding and dispatch requirements for all Spinning Reserve capacity from Generating Units, inclusive of aggregated Generating Units.

Market Participant Reminder - Spinning Reserve Requirements

"Market Participants must bid and schedule Energy and Ancillary Services from resources that are reasonably expected to be available and capable of performing at the levels specified in the bid and/or

schedule, and to remain available and capable of so performing based on all information that is known to the Market Participant or should have been known to the Market Participant at the time of bidding or scheduling" (CAISO Tariff, Section 37.3.1.1).

Spinning Reserve is defined by the CAISO Tariff as, the "portion of unloaded synchronized generating capacity that is immediately responsive to system frequency and that is capable of being loaded in ten-minutes, and that is capable of running for at least two hours."

In order to comply with the requirements of the CAISO Tariff and to meet the WECC MORC for Spinning Reserve, the CAISO reminds all Generators awarded Spinning Reserves of the following requirements:

- Governors must be properly tuned and in-service in order to be frequency responsive;
- Telemetry between the Generating Units and the CAISO's Energy Management System must be maintained and functional;
- The aggregated Generating Units' unloaded capacity must be equal to or greater than the awarded Spin capacity;
- The entire awarded Spin capacity must be synchronized to the Grid; and
- The awarded Spin capacity must be converted to energy within ten-minutes of notification.

Aggregated Generating Unit Example

The following example illustrates the performance required by aggregated Generating Units to meet the requirements for Spinning Reserve:

	PMin (MW)	PMax (MW)
Aggregated Unit (1&2)	10	100
Unit 1	5	50
Unit 2	5	50

Spinning Reserve Capacity: 46 MW

In the above example, the Spinning Reserve Capacity on the aggregated Generating Units is 46 MW, therefore Unit 1 and Unit 2 must be synchronized to the Grid for the duration of the awarded bid trade hour since the "Minimum Load of Unit 1 + Spinning Reserve Capacity" exceeds the PMax of Unit 1.

CAISO Ancillary Services Certification, Monitoring and Compliance Actions

The CAISO, in its Market Notice dated August 31, 2006 titled "Ancillary Services – Spinning Reserve, Testing and Certification," announced that it was suspending certification of aggregated Generating Units pending a review of its Spinning Reserve procurement procedures to ensure that they meet WECC MORC and CAISO Tariff requirements. Accordingly, the CAISO has reviewed its requirements for procuring Spinning Reserves from all types of Generating Units and found them to be consistent with the CAISO Tariff and the WECC MORC.

At this time, the CAISO will resume the certification testing of new and existing Generating Units and aggregated Generating Units for participation in the CAISO Spinning Reserve Markets.

Pursuant to CAISO Tariff Section 8, the CAISO will continue to closely monitor the performance of all Generating Units that are awarded Spinning Reserve and will initiate appropriate actions for non-performance of Spinning Reserve dispatch instructions, and for non-compliance with Spinning Reserve requirements. Actions may include:

1. Compliance monitoring of unit connectivity status during the awarded bid trade hour;
2. Warning notices (CAISO Tariff Sections 8.10N and P);

3. Penalties for failure to pass tests and rescission of Ancillary Service payments (CAISO Tariff Sections 8.10.2 and 37.3.1.2);
4. Revocation of Ancillary Service certification (CAISO Tariff Sections 8.4 and 8.10); and
5. Referrals to the Federal Energy Regulatory Commission ("FERC") for potential violations of CAISO Tariff and FERC market rules, pursuant to 111 FERC ¶ 61,267.[1][1]

For More Information Contact: Clyde Loutan: cloutan@caiso.com, (916) 608-5917 or Gary DeShazo: gdeshazo@caiso.com, (916) 608-5880.



California ISO
Your Link to Power

The California ISO strives to be a world-class electric transmission organization built around a globally recognized and inspired team providing cost-effective and reliable service, well-balanced energy market mechanisms, and high-quality information for the benefit of our customers.

EA/ComPR/IPS/cy

Exhibit I

September 20, 2007 Market Notice



California Independent
System Operator Corporation

California ISO

**Supplement to Proposal for
Spinning Reserve Certification**

September 20, 2007

**CALIFORNIA ISO
SUPPLEMENT TO PROPOSAL FOR
SPINNING RESERVE CERTIFICATION**

September 20, 2007

On June 13, 2007, the California Independent System Operator Corporation ("CAISO") issued a Market Notice and posted a whitepaper entitled "Proposal for Spinning Reserve Certification" to commence a Stakeholder Initiative on Spinning Reserve Certification. The Stakeholder Initiative was undertaken as part of an CAISO effort to review its certification process for Spinning Reserve Capacity and the bidding practices of Aggregated Units to ensure that the Spinning Reserve service the CAISO procures from the Aggregated Units complies with the CAISO Tariff and the Western Electricity Coordinating Council ("WECC") Minimum Operating Reliability Criteria ("MORC").

The CAISO has held two stakeholder conference calls to discuss this matter and provided several opportunities for stakeholders to submit written comments on the CAISO's proposal. In response to that stakeholder input, the CAISO is issuing this "Supplement to Proposal for Spinning Reserve Certification" to focus on the narrow issue under review in this initiative and provide additional detail about its proposal.

Out of the approximately 300 aggregated resources that participate in the CAISO markets, it is the configuration and Spinning Reserve bidding practices of six Aggregated Units that have caused the concern under review in this Stakeholder Initiative. These six Aggregated Units represent total capacity of approximately 217 MW.

Each of the six aggregations is configured as a pair of resources: a very small "host" unit -- with capacity of 100 KW, for example -- and a larger combustion turbine ("CT") -- with capacity of 46 MW, for example. In this configuration, the aggregation then follows the practice of: synchronizing only the host unit to the CAISO Grid; holding the CT off-line; submitting bids for Spinning Reserve that include capacity from the CT; and not operating the CT during the period that the aggregation is awarding Spinning Reserve, unless the CT responds to a dispatch by the CAISO to provide Energy. The CAISO understands the intent of this bidding strategy to be for the host/CT aggregation to receive payment for the Spinning Reserve award, which is typically the highest priced Ancillary Service, without operating the CT, or incurring the associated fuel costs or other variable operating and maintenance expenses for the CT unless it is actually dispatched.

The practice of the host/CT aggregations to bid Spinning Reserve without the CT synchronized to the system is not consistent with the CAISO Tariff. The CAISO Tariff, Appendix A, Master Definitions defines Spinning Reserve as:

The portion of *unloaded synchronized* generating capacity that is *immediately responsive to system frequency* and that is capable of being loaded in ten minutes, and that is capable of running for at least two hours. (Emphasis added.)

The definition requires that Spinning Reserve capacity be unloaded, synchronized, and immediately responsive to system frequency. It is physically impossible for the host/CT aggregation to meet this requirement if the CT is off-line during the period of a Spinning Reserve award. The capacity of the CT is neither synchronized nor immediately responsive to frequency deviations.

In addition, CAISO Tariff Section 8.2 establishes “Ancillary Services Standards,” which are standards for each Ancillary Service that the CAISO has determined are necessary to maintain the reliable operation of the grid. The standards provide technical requirements related to the generator’s operating capabilities, communication capabilities and metering infrastructure. In Tariff Section 8.4.4, the Ancillary Service availability standard for Spinning Reserve requires that:

Each Participating Generator shall ensure: (i) that its Generating Units scheduled to provide Spinning Reserve and Non-Spinning reserve are available for Dispatch throughout the Settlement Period for which they have been scheduled; and (ii) that its *Generating Units scheduled to provide Spinning Reserve are responsive to frequency deviations throughout the Settlement Period for which they have been scheduled.* (Emphasis added.)

Again, the host/CT aggregation is operationally incapable of meeting this availability requirement if the CT is off-line when awarded Spinning Reserve.

Similarly, Tariff Section 37.3.1.1 provides that:

Market Participants must bid and schedule Energy and Ancillary Services from resources that are reasonably expected to be available and capable of performing at the levels specified in the bid and/or schedule, and to remain available and capable of so performing based on all information that is known to the Market Participant or should have been known to the Market Participant at the time of bidding or scheduling.

These requirements in the CAISO Tariff are designed to ensure that adequate generating capacity is available, and capable of performing, at all times to maintain the reliability of the grid and meet WECC MORC requirements. If the Spinning Reserves procured or self-provided in the forward Ancillary Services markets fail to perform either in response to a frequency deviation or to real-time dispatch, the CAISO’s ability to respond to system needs may be compromised and could lead to system reliability and instability problems. Further, this

reliability risk would be exacerbated if other generating units or aggregated resources were to adopt the host/CT configuration and cease to synchronize spinning capacity to the system.

In order to ensure that host/CT aggregations comply with these Tariff requirements and do not cause reliability issues, the CAISO has revised its testing and certification procedures for Spinning Reserve to designate the P_{min} for the CT unit as the minimum spin capacity. The CAISO has also implemented an Ancillary Service testing program, under Tariff Section 8.10.1, to check the ability of all units that bid spin to perform within the Tariff requirements. In addition, the CAISO raised this issue at the WECC Minimum Operating Reliability Criteria Workgroup (MORCWG) meeting on June 27, 2006. As documented in the MORCWG meeting minutes, the workgroup decided that this operating configuration did not qualify as Spinning Reserve in the Western Interconnection.

An additional measure the CAISO has proposed in this Stakeholder Initiative is to seek a FERC order on the CAISO Tariff definition of Spinning Reserve. This proposal contemplates that the CAISO will submit a filing to FERC requesting that the Commission confirm that the existing definition of Spinning Reserve requires that the CT in a host/CT aggregation be synchronized to the system during the period of a Spinning Reserve award or, in the alternative, amend the definition to make that requirement clear. The filing will not propose any change to the portion of the Spinning Reserve definition that addresses frequency response. WECC is currently in the process of developing a standard for frequency responsive reserve.

The purpose of the FERC filing is to enforce the existing policy and provisions in the CAISO Tariff on the requirements for Spinning Reserve. The proposal will not disqualify aggregated units from providing Spinning Reserve nor significantly change the CAISO's procurement of Spinning Reserves. It is intended to ensure that host/CT aggregations operate the CT in compliance with the Tariff and WECC MORC requirements and that the CAISO obtains all of the qualities of Spinning Reserve service that it procures.

One set of stakeholder comments requests that the CAISO undertake a comprehensive system analysis of the adverse impact on resources that will be barred from providing Spinning Reserve under the CAISO's proposal, and to determine if remaining resources will be capable of supporting current and expected load. The CAISO does not believe that such an analysis is warranted. The limited objective of the FERC filing of attaining compliance by six host/CT aggregations to existing CAISO Tariff requirements does not necessitate system-wide economic analysis.

Exhibit J

G-213 Operating Procedures, Version 6.0

 California ISO Your Link to Power	OPERATING PROCEDURE	Procedure No.	G-213
		Version No.	6.0
		Effective Date	12/17/07
Generator Certification Testing		Distribution Restriction: None	

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 California ISO Your Link to Power	OPERATING PROCEDURE	Procedure No.	G-213
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 California ISO Your Link to Power	OPERATING PROCEDURE	Procedure No.	G-213
		Version No.	6.0
		Effective Date	12/17/07
Generator Certification Testing		Distribution Restriction: None	

Purpose

Describes the process by which the CAISO certifies:

- Generating Units,
 - Curtailable Demand, and
 - System Resources that provide Ancillary Service (A/S).
-

1. General Testing Information and Requirements

Required Forms

Ancillary Services (A/S) Test Request Form

The A/S Test Request Form (Attachment A) must be submitted to the CAISO AS Notifications mailbox (asnotifications@caiso.com) *accurately and completely* prior to scheduling a test date with the A/S Test Administrator.

Resource Data Template (RDT)

There are certain associated data with PMax, PMin, and Ramp Rate tests as required by MRTU Phase 1B and submitted on the Resource Data Template (RDT) that will need to be reviewed for changes at the time of an A/S test request; items for review include Heat Rate, Ramp Rate, and Forbidden Range data.

If changes are required based on new requested values, a Resource Data Template (RDT) must be completed and submitted to the CAISO A/S Test Administrator prior to the scheduling of an A/S test with the A/S Test Administrator. Upon request for an A/S test by the SC, the A/S Test Administrator will create the generating unit's RDT and email it to the requesting party. The SC must return the updated RDT, along with the A/S Test Request Form, before the A/S test date will be scheduled with the A/S Test Administrator. The values on the RDT should be based on the A/S test requested values.

A/S Administrator Test Form

The A/S Administrator Test Form (Attachment G) is utilized by the A/S Test Administrator to calculate and track testing results.



Generator Certification Testing

Distribution Restriction:
None

**Testing Spin,
Non-Spin Ramp
Rate**

When testing the Spin and Non-Spin Ramp Rate of Generating Units, take the following steps:

Step	A/S Test Administrator Actions						
1	<p>Position Generating Unit starting point for optimum response by allowing enough room for ten minutes of ramping at the Stated Ramp Rate.</p> <table border="1"> <thead> <tr> <th>If...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>The testing is for Non-Spin</td> <td>Start off-line with unit completely shut down (see A/S Technical Information on Non-Spinning Reserve Testing). For Generating Units scheduled as an aggregate, all units within the aggregation must be in an off-line state.</td> </tr> <tr> <td>The testing is for Spin</td> <td>Start with unit on-line at, or above, PMin. For Generating Units scheduled as an aggregation, all Generating Units within the aggregation from which Spin capacity is bid must be in an on-line state and each unit within the aggregation must be at or above its PMin. Verify with Plant Operator or SC that all units within the aggregation are synchronized to the grid and are at their PMin levels. Also verify that governor is operational and in service. Do not proceed with the test if either of these conditions is not met.</td> </tr> </tbody> </table>	If...	Then...	The testing is for Non-Spin	Start off-line with unit completely shut down (see A/S Technical Information on Non-Spinning Reserve Testing). For Generating Units scheduled as an aggregate, all units within the aggregation must be in an off-line state.	The testing is for Spin	Start with unit on-line at, or above, PMin. For Generating Units scheduled as an aggregation, all Generating Units within the aggregation from which Spin capacity is bid must be in an on-line state and each unit within the aggregation must be at or above its PMin. Verify with Plant Operator or SC that all units within the aggregation are synchronized to the grid and are at their PMin levels. Also verify that governor is operational and in service. Do not proceed with the test if either of these conditions is not met.
If...	Then...						
The testing is for Non-Spin	Start off-line with unit completely shut down (see A/S Technical Information on Non-Spinning Reserve Testing). For Generating Units scheduled as an aggregate, all units within the aggregation must be in an off-line state.						
The testing is for Spin	Start with unit on-line at, or above, PMin. For Generating Units scheduled as an aggregation, all Generating Units within the aggregation from which Spin capacity is bid must be in an on-line state and each unit within the aggregation must be at or above its PMin. Verify with Plant Operator or SC that all units within the aggregation are synchronized to the grid and are at their PMin levels. Also verify that governor is operational and in service. Do not proceed with the test if either of these conditions is not met.						
2	Notify Plant Operator of start time (this contact is the Start Time) and request to increase the output at the maximum allowable rate until instructed to stop (10 minutes for Spin and Non-Spin), or P-max is reached.						
3	Record test and ramp start data on the A/S Administrator Test Form in <u>Attachment G</u> . Note the time by hr:mn:sc and record the MW level to two decimal places.						
4	Monitor MW level 10 minutes for Non-Spin or when Full Range is achieved, or until Generating Unit reaches P-max.						
5	Call an end of complete timed test.						

 California ISO Your Link to Power	OPERATING PROCEDURE	Procedure No.	G-213
		Version No.	6.0
		Effective Date	12/17/07
Generator Certification Testing		Distribution Restriction: None	

6	Record end data on the A/S Administrator Test Form in <u>Attachment G</u> . Note the time by hr:mn:sc and record the MW level to two decimal places.
---	--

Exhibit K

Declaration of Tiffaney Borchardt

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

MMC Energy, Inc.)	
Complainant,)	
)	
v.)	Docket No. EL08-46-000
)	
California Independent System)	
Operator Corporation)	
Respondent.)	

**DECLARATION OF TIFFANEY BORCHARDT IN SUPPORT OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION'S
ANSWER TO MMC ENERGY, INC.'S COMPLAINT**

I, Tiffany Borchardt, declare under penalty of perjury that the following is true and correct:

1. I am a Senior Compliance Analyst employed by the California Independent System Operator Corporation ("CAISO"). My business address is 151 Blue Ravine Road, Folsom, CA 95630. I am submitting this Declaration in support of the CAISO's Answer to MMC Energy, Inc.'s ("MMC") Complaint in the above-referenced proceeding regarding MMC's provision of Spinning Reserve.
2. The CAISO assessed No Pay Charges under the CAISO Tariff to rescind Spinning and/or Non-Spinning Reserve payments to MMC for Trading Days July 24, 2006 through August 3, 2006 and various Trading Days during the timeframe of July 1, 2007 through September 30, 2007 because MMC's units failed to meet the applicable Ancillary Service requirements. In each instance in which the CAISO assessed No Pay Charges, an aggregated MMC unit was scheduled to provide Spinning and/or Non-Spinning Reserve service but its capacity was unavailable.

3. The \$522,188 of relief MMC requests exceeds the Spinning Reserve payments that the CAISO rescinded through No Pay Charges. The CAISO's settlement records show that the CAISO applied No Pay Charges that rescinded Spinning Reserve payments to MMC of \$240,534 for the Trading Days July 24, 2006 through August 3, 2006, and \$103,010 for the Trading Days July 1, 2007 through September 30, 2007, which total \$343,544. The CAISO rescinded \$664 in Non-Spinning Reserve payments to MMC for the Trading Days July 24, 2006 through August 3, 2006 and \$175,780 in Non-Spinning Reserve payments for the Trading Days in July through September 2007. The sum of the rescinded Spinning and Non-Spinning Reserve payments is less than MMC's requested amount of relief for Spinning Reserve payments.

4. The CAISO applies No Pay Charges in the ordinary course of its settlement process, consistent with the CAISO Tariff and in accordance with the CAISO Payment Calendar under which settlement charges are included in the Preliminary Settlement Statement issued 38 Business days after the Trading Day. The assessment of No Pay Charges to MMC followed this process.

5. PPM Energy, Inc., the Scheduling Coordinator for MMC, requested Good Faith Negotiations ("GFN") with the CAISO under CAISO Tariff Section 13.2.1 with respect to the application of No Pay Charges that rescinded payment of \$241,198 for MMC's Ancillary Service bids of Spinning and Non-Spinning Reserve capacity for Trading Days July 24, 2006 through August 3, 2006. The CAISO accepted the request for GFN and on January 18, 2007, representatives of MMC and the CAISO met to initiate the GFN. The parties discussed the disputed charges in the GFN, and in settlement negotiations that occurred in October and November 2007.

6. From July 24, 2006 to August 3, 2006, the Scheduling Coordinator for MMC's units submitted bids for Spinning and Non-Spinning Reserve, with corresponding Supplemental Energy bids that used the units' minimum ramp rate. For both MMC's Escondido and Chula Vista aggregated units, the minimum ramp rate used for this period was 0.02 MW per minute.
7. From July 24, 2006 to August 3, 2006, MMC's units were bidding, and being awarded, Spinning and Non-Spinning Reserve capacity in the range of 35 MW in the forward market, but the amount of dispatchable Spinning and Non-Spinning Reserve capacity in real time was restricted by the minimum ramp rate to Ramping up to only 0.2 MW of the 35 MW in ten minutes.
8. MMC's use of the slower, minimum ramp rate values indicated that the units were unable to ramp up to the awarded capacity level within ten minutes as required for Spinning Reserve and Non-Spinning Reserve, and resulted in its units having undispachable capacity because it was ramp restricted. If a unit's ramp rate does not meet the required 10-minute Ramping capability, then its reserved capacity does not meet the requirements of Spinning or Non-Spinning Reserve service and, therefore, is unavailable during the period of the award.
9. For the Trading Days July 24 through August 3, 2006, the ramp rates that MMC assigned to its units did not allow those units to meet the ten-minute requirement. Due to this limitation, the units' ramp-restricted capacity was not dispatchable and was unavailable as Spinning and Non-Spinning Reserve.
10. Under CAISO Tariff Sections 8.10.2.2 and 8.10.2.2.3, and the CAISO's No Pay for Ancillary Services Settlements Guide ("Settlement Guide"), the CAISO therefore

applied No Pay Charges to rescind the Spinning and Non-Spinning Reserve payments to MMC for these Trading Days.

11. For various Trading Days from July 1, 2007 through September 30, 2007, the CAISO assessed No Pay Charges to rescind payments to MMC in the amount of \$93,295 for Spinning Reserve capacity because that capacity was not connected to the CAISO Controlled Grid and did not meet the requirements of the CAISO Tariff.

12. Unconnected capacity is unavailable under CAISO Tariff Section 8.10.2.2 and subject to No Pay Charges.

13. MMC's Scheduling Coordinator, Bear Energy LP, submitted settlement disputes to the CAISO that challenged only \$2,311 of No Pay Charges for six Trading Days in the July through September, 2007 time period.

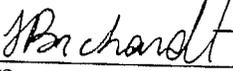
14. MMC provided a daily log for only three of the six disputed Trading Days (September 20, 21, and 24, 2007) as attachments to the settlement disputes. The log dialog box in the three logs states that the unit status is online but provides no actual operating data that corroborates the statement. The CAISO denied these disputes, as shown on the dispute forms, and the CAISO Compliance Department has no record that MMC submitted operating logs for any other Trading Days from July through September 2007.

15. The CAISO's records show that for each of the time periods for which the CAISO issued No Pay Charges to rescind Spinning Reserve payments for unconnected capacity from July through September 2007, MMC's aggregated resource was off-line and not spinning.

16. The CAISO utilizes EMS/Pi data to determine the connectivity of all resources, including MMC's three aggregated unit configurations. The EMS system employs a unit connectivity ("UCON") tag unique to each resource. If either unit in an aggregated configuration is connected, then the aggregate UCON tag will indicate that the resource is connected.

17. The CAISO's UCON data associated with the July, August, September 2007 Trading Days confirms that the UCON tags of the aggregate resources were "off" during the hours for which the CAISO rescinded MMC's Spinning Reserve capacity payments. The CAISO's records also verify that there was no telemetry or communication error at any time during July, August, and September 2007. In addition, the CAISO's records show that, in hours when MMC's aggregate UCON tags were off, the circuit breaker and voltage (kV) values were consistent with an off-line UCON status. If the voltage is greater than zero and the circuit breaker is closed, then the UCON will read "on." CAISO engineers have confirmed that for each date at issue the voltage was either zero or the Circuit breaker was open, which indicates that during the relevant timeframe the aggregate resource was not connected to the grid, and therefore, not spinning.

Dated this 14th of April, 2008.



Tiffany Borchardt
Senior Compliance Analyst

Exhibit L

February 22, 2008 CAISO Letter to MMC

Privileged -- Removed to Volume II

Exhibit M

Settlement Guide

No Pay for Ancillary Services

Charge # 4141 No Pay – Spinning Reserve

Charge # 4142 No Pay – Non-Spinning Reserve

Charge # 4144 No Pay – Replacement Reserve

Charge # 1030 No Pay Refund

Description

No Pay is a settlement mechanism to encourage Generating Units, Dynamic System Resources, Participating Loads and System Resources that schedule Ancillary Services (A/S) to schedule in accordance with the CAISO Tariff and Protocols and to keep the awarded capacity available for ISO Dispatch, to follow Dispatch Instructions and to avoid uninstructed deviations. The No Pay charges eliminate A/S capacity payments to the extent that the requirements for A/S were not fulfilled. For units that self-provide A/S, the No Pay charge is equivalent to that which would arise if the A/S had been bid into each market in which they were scheduled.

No Pay applies in each Settlement Interval for units that are scheduled for Spinning, Non-Spinning or Replacement Reserve for the following reasons:

Undispatchable Capacity: There are two subcategories of Undispatchable Capacity.

- 1) **Availability-Limited Capacity:** If a unit's capacity is de-rated after the close of the Hour Ahead (HA) market, the total amount of awarded A/S capacity may not be available in real-time for dispatch due to the availability-limitation.
- 2) **Ramp-Limited Capacity:** Spin and Non-Spin are required to be delivered in 10 minutes. If a unit does not have the 10-minute ramp rate capability (determined by its start up time and ramp rate curve) in real-time to deliver the A/S that was scheduled, then a portion of the A/S capacity is not available due to the ramp rate limitations on the unit.

Undelivered Capacity: If Energy from a unit's A/S capacity is dispatched, then that unit is responsible for delivering at least 90 %¹ of the Expected Energy attributed to that dispatched A/S capacity in order to avoid a No Pay charge.

Unavailable Capacity: No Pay charges apply when Ancillary Services are unavailable because they are converted to Energy without Dispatch Instructions from the ISO. Uninstructed deviations in real-time may cause A/S capacity to be unavailable to the ISO as operating reserve.

Declined Instruction: Static System Resources respond to Dispatch Instructions with an "Accept", "Partial" or "Decline" response. When a Static System Resource partially accepts or declines an A/S Dispatch Instruction, No Pay will apply to the amount not delivered.

¹ Per Market Notice dated September 1, 2000 a resource must deliver at least 90% of the Expected Energy dispatched from Ancillary Services. The tolerance factor (10%) is subject to modification to be effective 24 hours after a notice is published on the ISO Home Page.

Uncertified/Unconnected Capacity²: If a unit receives an Ancillary Services award in the Day-Ahead or Hour-Ahead Market and that unit is not authorized to provide that Ancillary Service, a No Pay charge will rescind any unauthorized capacity award. A unit will also have awarded capacity rescinded if a resource does not comply with the Ancillary Service Connectivity standards of that service.

The Ancillary Services standards are as follows:

- Spinning Reserve: Spinning Reserve is generation that is already on-line, or “spinning”, with additional capacity that is capable of ramping over a specified range within 10 minutes and running for at least two hours.
- Non-Spinning reserve: Non-Spinning Reserve is generation that is available but not on-line, that is capable of being synchronized and ramping to a specified level within 10 minutes, and then capable of producing dispatched energy for at least two hours.

A unit that is not certified to provide Non-Spinning Reserve from an off-line position may bid Non-Spinning Reserve so long as the unit is on-line, synchronized, available and capable of performing in accordance with such bid or Schedule.

In some cases, more than one of these No Pay consequences can apply in a Settlement Interval. The No Pay billable quantity is the sum of all the No Pay consequences except when the unit fails the certification/connection test then all of the A.S capacity will be rescinded under this category. No Pay will not apply to units that are scheduled to provide Regulation if they are on Automatic Generation Control.

No Pay Charge Calculation

Undispatchable Capacity

Maximum Availability

The ISO stores information on de-rates and outages in the SLIC application³. If a unit scheduled to provide A/S is de-rated, then the total amount of A/S capacity may not be available for dispatch in real-time. The Reported Maximum Availability is calculated as a weighted average of the maximum unit availability as reported in SLIC over the Settlement Interval. This calculation captures any “retro-active” SLIC de-rates (up to 30 minutes) for maximum resource capacity that were entered in SLIC after the dispatch was calculated by RTMA.⁴ The Maximum Bid Capacity is restricted by both the Reported Maximum Availability of the unit through SLIC and by the amount of Energy offered in the Supplemental Energy Curve.

The Maximum Bid Availability for No Pay is the lower of the Maximum Bid Capacity and the Reported Maximum Availability and is calculated as follows:

$$\text{Maximum Bid Availability} = \min(\text{Maximum Bid Capacity}, \text{Reported Maximum Availability})$$

Note that Maximum Bid Capacity, Reported Maximum Availability, and Maximum Bid Availability are capacity (MW) quantities and not energy (MWh) quantities.

Availability-Limited Capacity

Using the Maximum Bid Availability, the Availability-Limited A/S capacity for Generating Units and Dynamic System Resources is calculated⁵.

² Beginning November 1, 2005, the No Pay application will rescind capacity payments for Uncertified/Unconnected Capacity.

³ The web-based application that allows Scheduling Coordinators to create and submit outage cards for changes to maximum/minimum availability and to ramp rate capability in real time.

⁴ A typical case is a forced outage or a delayed SLIC entry.

⁵ Consistent with RTMA software where Replacement Reserve is dispatched before Non-Spinning Reserve, and Non-Spinning Reserve is dispatched before Spinning Reserve.

Availability-Limited Replacement Capacity = min (Replacement Schedule, max (0, Maximum Bid Availability – Energy Schedule – Spin Schedule – Non-Spin Schedule))

Availability-Limited Non-Spin Capacity = min (Non-Spin Schedule, max (0, Maximum Bid Availability – Energy Schedule – Spin Schedule))

Availability-Limited Spin Capacity = min (Spin Schedule, max (0, Maximum Bid Availability – Energy Schedule))

These equations will calculate how much A/S is available on the unit with the availability limitation. For specifics on the calculation, see Example 1 in Appendix A.

Ramp-Limited Capacity

When the ISO awards A/S capacity in the forward markets, the unit is expected to deliver that service in accordance with the bid parameters originally specified. Those bid parameters include a bid ramp rate and a unit start up time. Each unit providing real-time services for ISO Dispatch also submits a Supplemental Energy curve. The Supplemental Energy ramp rate curve may show that the amount of A/S awarded in the forward markets based on bid ramp rate and unit start up time is not available due to a lower ramp rate or change in start up time in the Supplemental Energy curve. The ISO will only dispatch units according to their capability as specified in the Supplemental Energy bid. Since Operating Reserves⁶ are 10-minute services, only that Operating Reserve capacity that can be converted into Energy within 10 minutes is actual Operating Reserve for the ISO. Using the 10-minute Incremental Operating Reserve Availability, No Pay will determine if Operating Reserve capacity that was awarded in the forward markets is available within 10 minutes in real-time.

The first step in the calculation for Ramp-Limited Capacity is to determine how much A/S in MW was dispatched in the Settlement Interval:

Dispatched Non-Spin Capacity = min (Availability-Limited Non-Spin Capacity, max (0, DOT⁷ – (Maximum Bid Availability – Availability-Limited Spin Capacity – Availability-Limited Non-Spin Capacity)))

Dispatched Spin Capacity = min (Availability-Limited Spin Capacity, max (0, DOT – (Maximum Bid Availability – Availability-Limited Spin Capacity)))

Once the dispatched Spin and Non-Spin are calculated, the amount of Spin and Non-Spin that was not dispatched (in MW) is calculated and compared to the ramp rate capability of the unit in the Settlement Interval, which is represented by the Incremental Operating Reserve Availability.

Undispatched Non-Spin Capacity = Availability-Limited Non-Spin Capacity – Dispatched Non-Spin Capacity

Undispatched Spin Capacity = Availability-Limited Spin Capacity – Dispatched Spin Capacity

Undispatched A/S capacity may be further limited by the ramp rate capability as follows:

Ramp-Limited Non-Spin Capacity = min (Undispatched Non-Spin Capacity, Incremental Operating Reserve Availability)

Ramp-Limited Spin Capacity = min (Undispatched Spin Capacity, Incremental Operating Reserve Availability – Ramp-Limited Non-Spin Capacity)

These equations will calculate how much A/S is available on the unit with the ramp rate limitation. For specifics on the calculation, see Example 2 in Appendix A.

⁶ Spin and Non-Spin are considered Operating Reserve.

⁷ Where the DOT is from the Dispatch Interval prior to the Settlement Interval.

The Incremental Operating Reserve Availability is obtained from RTMA for the first Dispatch Interval in the Settlement Interval, and the DOT is obtained from RTMA for the previous Dispatch Interval. If the Incremental Operating Reserve Availability is not calculated by RTMA for a Dispatch Interval (i.e., is null) then the value of the Incremental Operating Reserve Availability is set to 999, which effectively states that the unit has a large ramping capability and Undispatchable No Pay will not be calculated as it relates to ramp rate limitations. Also, due to current limitations in RTMA regarding dispatch of short-start units, these units with zero Incremental Operating Reserve Availability are exempt from Ramp-Limited Undispatchable Capacity charges associated with Non-Spinning Reserve.

Once both Availability-Limited and Ramp-Limited Capacity are calculated the total Undispatchable Capacity quantity can be determined:

$$\text{Undispatchable Replacement Capacity} = (\text{Replacement Schedule} - \text{Availability-Limited Replacement Capacity}) / N$$

$$\text{Undispatchable Non-Spin Capacity} = (\text{Non-Spin Schedule} - \text{Dispatched Non-Spin Capacity} - \text{Ramp-Limited Non-Spin Capacity}) / N$$

$$\text{Undispatchable Spin Capacity} = (\text{Spin Schedule} - \text{Dispatched Spin Capacity} - \text{Ramp-Limited Spin Capacity}) / N$$

Where N equals the number of Settlement Intervals in an hour, currently 6.

From the Undispatchable Capacity, the Dispatchable A/S Capacity is calculated as follows:

$$\text{Dispatchable Replacement Capacity} = \text{Replacement Schedule} / N - \text{Undispatchable Replacement Capacity}$$

$$\text{Dispatchable Non-Spin Capacity} = \text{Non-Spin Schedule} / N - \text{Undispatchable Non-Spin Capacity}$$

$$\text{Dispatchable Spin Capacity} = \text{Spin Schedule} / N - \text{Undispatchable Spin Capacity}$$

$$\text{Dispatchable AS Capacity} = \text{Dispatchable Spin Capacity} + \text{Dispatchable Non-Spin Capacity} + \text{Dispatchable Replacement Capacity}$$

Undelivered Capacity

Using the Tolerance Factor, a Generating Unit or Dynamic System Resource must deliver at least 90% of the Expected Energy attributed to an A/S Dispatch Instructions in order to retain full A/S capacity payment.

IF (Delivered Spin IIE \geq (1 – Tolerance Factor) \times Settlement Interval Spin IIE)
 THEN Undelivered Spin Capacity = 0
 ELSE Undelivered Spin Capacity = max (0, Dispatchable Spin Capacity – Delivered Spin IIE)

IF (Delivered Non-Spin IIE \geq (1 – Tolerance Factor) \times Settlement Interval Non-Spin IIE)
 THEN Undelivered Non-Spin Capacity = 0
 ELSE Undelivered Non-Spin Capacity = max (0, Dispatchable Non-Spin Capacity – Delivered Non-Spin IIE)

IF (Delivered Replacement IIE \geq (1 – Tolerance Factor) \times Settlement Interval Replacement IIE)
 THEN Undelivered Replacement Capacity = 0
 ELSE Undelivered Replacement Capacity = max (0, Dispatchable Replacement Capacity – Delivered Replacement IIE)

Where Delivered Spin, Non-Spin and Replacement IIE are calculated as follows:

$$\text{Undelivered IIE} = \max (0, \text{Settlement Interval Expected Energy} + \text{MSS Instruction} - \text{Settlement Interval Meter Data})$$

$$\text{Undelivered Residual IIE} = \min (\max (0, \text{Settlement Interval Residual IIE}), \text{Undelivered IIE})$$

Undelivered Spin IIE = min (Settlement Interval Spin IIE, Undelivered IIE – Undelivered Residual IIE)

Undelivered Non-Spin IIE = min (Settlement Interval Non-Spin IIE, Undelivered IIE – Undelivered Residual IIE – Undelivered Spin IIE)

Undelivered Replacement IIE = min (Settlement Interval Replacement IIE, Undelivered IIE – Undelivered Residual IIE – Undelivered Spin IIE – Undelivered Non-Spin IIE)

Delivered Spin IIE = Settlement Interval Spin IIE – Undelivered Spin IIE

Delivered Non-Spin IIE = Settlement Interval Non-Spin IIE – Undelivered Non-Spin IIE

Delivered Replacement IIE = Settlement Interval Replacement IIE – Undelivered Replacement IIE

Delivered A/S IIE = Delivered Spin IIE + Delivered Non-Spin IIE + Delivered Replacement IIE

For specifics on the calculation, see Example 3 in Appendix A.

Unavailable Capacity

After accounting for the amount of A/S capacity that is Undispatchable, a Generating Unit or Dynamic System Resource must retain unloaded capacity on the unit for the portion of A/S that is dispatchable. If the unit deviates into that Dispatchable A/S Capacity, then that A/S capacity is unavailable to the ISO.

The following equations calculate the Unavailable Capacity for a unit:

Unavailable A/S Capacity = max (0, min (Settlement Interval Meter Data – Settlement Interval Expected Energy, Settlement Interval Meter Data – (Maximum Bid Availability / N – (Dispatchable A/S Capacity – Delivered A/S IIE))))

The Unavailable Capacity is then allocated to each of the A/S services from lowest quality to highest quality in order to preserve the highest quality A/S for the ISO. This is consistent with the Tariff language approved by FERC in Amendment 54.

Allocation of Unavailable A/S Capacity to A/S services:

Unavailable Replacement Capacity = min (Unavailable A/S Capacity, max(0, Dispatchable Replacement Capacity – Delivered Replacement IIE))

Unavailable Non-Spin Capacity = min (Unavailable A/S Capacity – Unavailable Replacement Capacity, max(0, Dispatchable Non-Spin Capacity – Delivered Non-Spin IIE))

Unavailable Spin Capacity = min (Unavailable A/S Capacity – Unavailable Replacement Capacity – Unavailable Non-Spin Capacity, max (0, Dispatchable Spin Capacity – Delivered Spin IIE))

For specifics on the calculation, see Example 4 in Appendix A.

Uncertified/Unconnected Capacity for Generating Units and Dynamic System Resources:

Generating Units and Dynamic System Resources receive a No Pay charge if unit is awarded Spinning Reserve in the Day-Ahead or Hour-Ahead market when the unit is not certified to provide Spinning Reserve or when the unit is certified to provide Spinning Reserve but is not already on-line, or “spinning” in Real-Time. The No Pay charge will be calculated for each Settlement Interval as:

If the unit has a Spin final HA Schedule and the unit is 1) not Certified to provide Spinning Reserve or 2) is Certified to provide Spinning Reserve but is not on-line, then No Pay Spinning Reserve BQ = Spin HA Schedule/6.

Generating Units and Dynamic System Resources receive a No Pay charge if unit is awarded Non-Spinning Reserve in the Day-Ahead or Hour-Ahead market when the unit is not certified to provide Non-Spinning Reserve or when the unit is certified to provide Spinning Reserve but is not already on-line, or “spinning” in Real-Time.

If the unit has a Non-Spin final HA Schedule and the unit is 1) not Certified to provide Non-Spinning Reserve or 2) is Certified to provide Spinning Reserve but is not on-line, then No Pay Non-Spinning Reserve BQ = Non Spin HA Schedule/6.

Declined Instruction

No Pay for Declined Instructions only applies to Static System Resources. The ISO does not allow Participating Generators, Dynamic System Resources and Participating Loads to decline Dispatch Instructions. Market Participants may indicate they cannot perform, however, that will be informational only and the Expected Energy from that Dispatch Instruction will still be an obligation for the unit. Static System Resources still have the option to decline A/S Dispatch Instructions. Those declines are subject to Declined A/S Capacity as follows:

IF (Acknowledged Spin Instruction < Spin Instruction) THEN Declined Spin Capacity = min (Dispatchable Spin Capacity, (Spin Schedule – Acknowledged Spin Instruction) / N)
ELSE Declined Spin Capacity = 0

IF (Acknowledged Non-Spin Instruction < Non-Spin Instruction) THEN Declined Non-Spin Capacity = min (Dispatchable Non-Spin Capacity, (Non-Spin Schedule – Acknowledged Non-Spin Instruction) / N)
ELSE Declined Non-Spin Capacity = 0

IF (Acknowledged Replacement Instruction < Replacement Instruction) THEN Declined Replacement Capacity = min (Dispatchable Replacement Capacity, (Replacement Schedule – Acknowledged Replacement Instruction) / N)
ELSE Declined Replacement Capacity = 0

Generating Units, Dynamic System Resources, and Participating Loads are not subject to this No Pay category. Declined A/S Capacity applies only to Static System Resources. Other No Pay consequences can apply to Static System Resources and No Pay charges will be calculated manually and applied to Settlement Statements. If an ISO dispatcher determines that energy from an accepted A/S Dispatch Instruction is not actually delivered in real-time, the ISO dispatcher does not enter a value for delivered energy in BITS⁸ and creates a SLIC log detailing the non-compliance event. The ISO will use the information in the SLIC log but creates manually a No Pay billable quantity for Undelivered A/S Capacity. Additionally, if an ISO dispatcher determines A/S capacity from a System Resource is Undispatchable because the relevant inter-tie has been de-rated, then the ISO dispatcher will create a SLIC log detailing the non-compliance event. The ISO will also use the SLIC log information and create manually a No Pay billable quantity for Undispatchable A/S Capacity.

Participating Loads

Participating Loads (PLs) are certified to provide Non-Spin or Replacement Reserves. These resources do not have a P-Max value in the Master File so the Unavailable Capacity equation as designed for Generating Units cannot apply to Participating Loads. Additionally, the portion of the Undispatchable Capacity related to a reduction in unit availability cannot apply to Participating Loads since they do not have a changing availability. Specific No Pay rules have been designed for Participating Loads.

⁸ BITS is an ISO application for recording Energy on import/export transactions.

Undispatchable Capacity for Participating Loads

Since Participating Loads submit Supplemental Energy bids for A/S capacity that could have ramp rates that are not sufficient to deliver the scheduled A/S in ten minutes, the Undispatchable Capacity related to ramp rate limitations may apply.

$$\text{Dispatched Non-Spin Capacity} = \min(\text{Non-Spin Schedule}, \max(0, \text{Load Schedule} - \text{DOT}))$$

$$\text{Undispatched Non-Spin Capacity} = \text{Non-Spin Schedule} - \text{Dispatched Non-Spin Capacity}$$

$$\text{Ramp-Limited Non-Spin Capacity} = \min(\text{Undispatched Non-Spin Capacity}, \text{Incremental Operating Reserve Availability})$$

$$\text{Undispatchable Non-Spin Capacity} = (\text{Non-Spin Schedule} - \text{Dispatched Non-Spin Capacity} - \text{Ramp-Limited Non-Spin Capacity}) / N$$

For specifics on the calculation, see Example 5 in Appendix A.

Undelivered Capacity for Participating Loads

Using the Energy calculations above, the Undelivered Capacity No Pay equations determine if at least 90% of Expected Energy dispatched from A/S capacity was delivered.

$$\text{IF } (\text{Delivered Non-Spin IIE} \geq (1 - \text{Tolerance Factor}) \times \text{Settlement Interval Non-Spin IIE})$$

$$\text{THEN Undelivered Non-Spin Capacity} = 0$$

$$\text{ELSE Undelivered Non-Spin Capacity} = \max(0, \text{Dispatchable Non-Spin Capacity} - \text{Delivered Non-Spin IIE})$$

$$\text{IF } (\text{Delivered Replacement IIE} \geq (1 - \text{Tolerance Factor}) \times \text{Settlement Interval Replacement IIE})$$

$$\text{THEN Undelivered Replacement Capacity} = 0$$

$$\text{ELSE Undelivered Replacement Capacity} = \max(0, \text{Dispatchable Replacement Capacity} - \text{Delivered Replacement IIE})$$

Where Energy calculations are made as follows:

$$\text{Undelivered Energy for PLs} = \max(0, \text{Metered Energy} - |\text{Expected Energy}|)$$

$$\text{Undelivered Non-Spin IIE for PLs} = \min(\text{Settlement Interval Non-Spin IIE}, \text{Undelivered IIE})$$

$$\text{Undelivered Replacement IIE for PLs} = \min(\text{Settlement Interval Replacement IIE}, \text{Undelivered IIE} - \text{Undelivered Residual IIE} - \text{Undelivered Spin IIE} - \text{Undelivered Non-Spin IIE})$$

$$\text{Delivered Non-Spin IIE for PLs} = \text{Settlement Interval Non-Spin IIE} - \text{Undelivered Non-Spin IIE}$$

$$\text{Delivered Replacement IIE for PLs} = \text{Settlement Interval Replacement IIE} - \text{Undelivered Replacement IIE}$$

The RTMA software models a Participating Load's Final HA Schedule as negative Expected Energy and any Instructed Imbalance Energy related to an A/S dispatch as positive Expected Energy; therefore, in most cases total Expected Energy for a Participating Load will be negative.

For specifics on the calculation, see Example 5 in Appendix A.

Unavailable Capacity for Participating Loads

Participating Loads can undertake uninstructed deviations that can make A/S capacity unavailable as unloaded operating reserve.

$$\text{Unavailable Capacity for PL} = \max(0, \min(|\text{Expected Energy}| - \text{Meter}, \max(0, \text{Dispatchable Non-Spin Capacity} - \text{Delivered Non-Spin IIE}) + \max(0, \text{Replacement Schedule}/6 - \text{Delivered Replacement IIE}) - \text{Metered Energy}))$$

Allocation to Replacement Capacity:

Unavailable Replacement Capacity = $\min(\text{Unavailable Capacity for PL}, \max(0, \text{Replacement Schedule}/6 - \text{Delivered Replacement Energy}))$

Allocation to Non-Spin Capacity:

Unavailable Non-Spin Capacity = $\min(\text{Unavailable Capacity for PL} - \text{Unavailable Replacement Capacity}, \max(0, \text{Dispatchable Non-Spin Capacity} - \text{Delivered Non-Spin Energy}))$

No Pay Billable Quantity

The billable quantity for Generating Units, Dynamic System Resources and Participating Loads is calculated as follows:

No Pay Spin BQ = $\text{Max}(\text{Undispatchable Spin Capacity} + \text{Undelivered Spin Capacity} + \text{Unavailable Spin Capacity}, \text{Uncertified/Unconnected Spin Capacity})$

No Pay Non-Spin BQ = $\text{Max}(\text{Undispatchable Non-Spin Capacity} + \text{Undelivered Non-Spin Capacity} + \text{Unavailable Non-Spin Capacity}, \text{Uncertified/Unconnected Non-Spin Capacity})$

No Pay Replacement BQ = $\text{Undispatchable Replacement Capacity} + \text{Undelivered Replacement Capacity} + \text{Unavailable Replacement Capacity}$

System Resources are only subjected to one category of automated No Pay. Manual No Pay charges may still apply for those System Resources that accept an A/S Dispatch Instruction and do not deliver energy in real-time or when the AS is unavailable due to transmission constraints.

For System Resources:

No Pay Spin BQ = Declined Spin Capacity

No Pay Non-Spin BQ = Declined Non-Spin Capacity

No Pay Replacement BQ = Declined Replacement Capacity

No Pay Market Refund

The collected No Pay revenue is allocated to all Scheduling Coordinators pro-rata based on metered Load and Exports through CT 1030 "No Pay Provision Market Refund".

Billable Quantity = SC's Metered Load and Exports [per SC, per hour]

Per Unit Price = Total No Pay Revenue [per hour] / Total Load and Exports [per hour]

Settlement Statement File

The following is a table from the California ISO Format Specification for Settlement File (located at <http://www.caiso.com/docs/2005/06/09/200506090933544146.pdf>). The fields represent what is found in the settlement statement.

Field	Type	Max Field Length	Domain	Description
Record Type	Varchar	1	'N'	Indicates the type of record.
Trading Date	Date			The trading date of the settlement.
Trading Hour	Number	2		The trading hour of the settlement.
Trading Interval	Number	2	1-6	The 10 minute settlement interval
Location ID	Varchar	32		The location to which this record applies.
Interchange ID	Varchar	32		The interchange ID to which this record applies.
MSS Flag	Varchar	1	'Y' or 'N'	'Y' indicates a MSS record. 'N' indicates a non-MSS record.
CMPL ID	Number	15		Compliance Identifier
RIE QTY	Number	13,4		Residual Imbalance Energy based on acknowledged instructions (MWh).
HA Schd Qty	Number	13,4		Hour Ahead Scheduled Energy
Reg Schd Flg	Varchar2	1	'Y' or 'N'	'Y' if the unit has a Non-zero Regulation schedule
Max Avail Qty	Number	13,4		Pmax or calculated value.
Max Bid Cap	Number	13,4		The highest capacity (MW) of the energy bid used for dispatching.
OR_INC_AVAIL	Number	13,4		10-Minute Incremental Availability from start of each dispatch interval.
DOT	Number	13,4		Dispatch Operating Target
Tolerance Factor	Number	13,4		Tolerance Factor (MWh).
MSS Instr Qty	Number	13,4		MSS Instructed Quantity (MWh).
Spin DA Schd Qty	Number	13,4		Scheduled Day Ahead Imbalance Energy from Spinning Reserve (MW).
Spin DA Self-Prov	Number	13,4		Day Ahead Self-Provision Imbalance Energy from Spinning Reserve (MW).
Spin HA Schd Qty	Number	13,4		Scheduled Hour Ahead Imbalance Energy from Spinning Reserve (MW).
Spin HA Self Prov	Number	13,4		Hour Ahead Self-Provision Imbalance Energy from Spinning Reserve (MW).
Spin HA RMR Qty	Number	13,4		Hour Ahead RMR Imbalance Energy from Spinning Reserve (MW).
Spin RT RMR Qty	Number	13,4		Real Time RMR Imbalance Energy from Spinning Reserve (MWh).
Spin Instr Qty	Number	13,4		Instructed Imbalance Energy from Spinning Reserve (MW).
Spin Ack Qty	Number	13,4		Acknowledged Imbalance Energy from Spinning Reserve (MW).
Spin IE Qty	Number	13,4		Spin Instructed Imbalance Energy(MWh)

Spin Bill Qty	Number	13,4	Imbalance Energy Billable Quantity from Spinning Reserve (MWh).
Spin DA Bill Qty	Number	13,4	Day Ahead Imbalance Energy from Spinning Reserve (MWh).
Spin HA Bill Qty	Number	13,4	Hour Ahead Imbalance Energy from Spinning Reserve (MWh).
Non Spin DA Schd Qty	Number	13,4	Scheduled Day Ahead Imbalance Energy from Non-Spinning Reserve (MW).
Non Spin DA Self Prov	Number	13,4	Day Ahead Self-Provision Imbalance Energy from Non-Spinning Reserve (MW).
Non Spin HA Schd Qty	Number	13,4	Scheduled Hour Ahead Imbalance Energy from Non-Spinning Reserve (MW).
Non Spin HA Self Prov	Number	13,4	Hour Ahead Self-Provision Imbalance Energy from Non-Spinning Reserve (MW).
Non Spin HA RMR Qty	Number	13,4	Hour Ahead RMR Imbalance Energy from Non-Spinning Reserve (MW).
Non Spin RT RMR Qty	Number	13,4	Real Time RMR Imbalance Energy from Non-Spinning Reserve (MWh).
Non Spin Instr Qty	Number	13,4	Instructed Imbalance Energy from Non Spinning Reserve (MW).
Non Spin Ack Qty	Number	13,4	Acknowledged Imbalance Energy Quantity from Non-spinning Reserve (MW).
Non Spin IE Qty	Number	13,4	Non Spin Instructed Imbalance Energy(MWh)
Non Spin Bill Qty	Number	13,4	Imbalance Energy Billable Quantity from Non-spinning Reserve (MWh).
Non Spin DA Bill Qty	Number	13,4	Day Ahead Imbalance Energy from Non-Spinning Reserve (MWh).
Non Spin HA Bill Qty	Number	13,4	Hour Ahead Imbalance Energy from Non-Spinning Reserve (MWh).
RR DA Schd Qty	Number	13,4	Scheduled Day Ahead Imbalance Energy from Replacement Reserve (MW).
RR DA Self Prov	Number	13,4	Day Ahead Self-Provision Imbalance Energy from Replacement Reserve (MW).
RR HA Schd Qty	Number	13,4	Scheduled Hour Ahead Imbalance Energy from Replacement Reserve (MW).
RR HA Self Prov	Number	13,4	Hour Ahead Self-Provision Imbalance Energy from Replacement Reserve (MW).
RR HA RMR Qty	Number	13,4	Hour Ahead RMR Imbalance Energy from Replacement Reserve (MW).
RR RT RMR Qty	Number	13,4	Real Time RMR Imbalance Energy from Replacement Reserve (MWh).
RR Instr Qty	Number	13,4	Instructed Imbalance Energy from Replacement Reserve (MW).
RR Ack Qty	Number	13,4	Acknowledged Imbalance Energy from Replacement Reserve (MW).
RR IE Qty	Number	13,4	RR Instructed Imbalance Energy(MWh)
RR Bill Qty	Number	13,4	Imbalance Energy Billable Quantity from Replacement Reserve (MWh).
RR DA Bill Qty	Number	13,4	Day Ahead Imbalance Energy from Replacement Reserve (MWh).
RR HA Bill Qty	Number	13,4	Hour Ahead Imbalance Energy from Replacement Reserve (MWh).

Appendix A

Example 1: Undispatchable Capacity: Availability-Limited

<u>Forward Markets</u>	<u>MW</u>	<u>Undispatchable Capacity Calculations</u>	<u>MW</u>	<u>Undelivered Capacity Calculations</u>	<u>MWh</u>	<u>Unava</u>
Replacement Schedule	0	P-Max	100	Dispatchable Replacement	0.00	Unava
Non-Spin Schedule	30	Reported Max Availability	80	Dispatchable Non-Spin	1.67	Unava
Spin Schedule	45	Maximum Bid Capacity	100	Dispatchable Spin	7.50	Unava
Final HA Schedule	25	Maximum Bid Availability	80	Dispatchable AS Capacity	9.17	Unava
<u>Expected Energy</u>	<u>MWh</u>	Incremental Op Res Availability	75	Undelivered Spin Capacity	0.00	
HRLY	4.17	DOT	0	Undelivered Non-Spin Capacity	0.00	
Residual IIE	0	Avail-Limited Replacement Capacity	0	Undelivered Replacement Capacity	0.00	
Spin IIE	0	Avail-Limited Non-Spin Capacity	10	Total No Pay	<u>MWh</u>	
Non-Spin IIE	0	Avail-Limited Spin Capacity	45	No Pay for Spin	0.00	
Replacement IIE	0	Dispatched Non-Spin Capacity	0	No Pay for Non-Spin	3.33	
Total Expected Energy	4.17	Dispatched Spin Capacity	0	No Pay for Replacement	0.00	
<u>Meter Data</u>	<u>MWh</u>	Undispatched Non-Spin Capacity	10			
MSS Instruction	0.00	Undispatched Spin Capacity	45			
<u>Energy Calculations</u>		Ramp-Limited Non-Spin	10			
Undelivered IIE	0.00	Ramp-Limited Spin	45			
Undelivered Residual IIE	0.00	Undispatchable Replacement	0.00			
Undelivered Spin IIE	0.00	Undispatchable Non-Spin	3.33			
Undelivered Non-Spin IIE	0.00	Undispatchable Spin	0.00			
Undelivered Replacement IIE	0.00					
Delivered Spin IIE	0.00					
Delivered Non-Spin IIE	0.00					
Delivered Replacement IIE	0.00					
Delivered AS IIE	0.00					



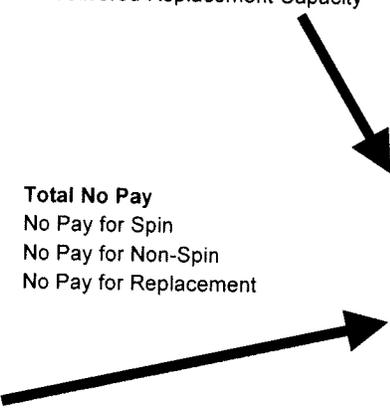
Data (Calcul

Example 2: Undispatchable Capacity: Ramp Rate-Limited

<u>Forward Markets</u>		<u>MW</u>	<u>Undispatchable Capacity Calculations</u>		<u>MW</u>	<u>Undelivered Capacity Calculations</u>		<u>MWh</u>	<u>Unava</u>
Replacement Schedule	0		P-Max	100		Dispatchable Replacement	0.00	Unava	
Non-Spin Schedule	30		Reported Max Availability	100		Dispatchable Non-Spin	5.00		
Spin Schedule	45		Maximum Bid Capacity	100		Dispatchable Spin	3.33	Unava	
Final HA Schedule	25		Maximum Bid Availability	100				Unava	
			Incremental Op Res Availability	50		Dispatchable AS Capacity	8.33	Unava	
<u>Expected Energy</u>		<u>MWh</u>				Undelivered Spin Capacity	0.00		
HRLY	4.17		DOT	0		Undelivered Non-Spin Capacity	0.00		
Residual IIE	0		Avail-Limited Replacement Capacity	0		Undelivered Replacement Capacity	0.00		
Spin IIE	0		Avail-Limited Non-Spin Capacity	30					
Non-Spin IIE	0		Avail-Limited Spin Capacity	45					
Replacement IIE	0		Dispatched Non-Spin Capacity	0					
Total Expected Energy	4.17		Dispatched Spin Capacity	0		Total No Pay	<u>MWh</u>		
			Undispatched Non-Spin Capacity	30		No Pay for Spin	4.17		
<u>Meter Data</u>			Undispatched Spin Capacity	45		No Pay for Non-Spin	0.00		
MSS Instruction	0.00		Ramp-Limited Non-Spin	30		No Pay for Replacement	0.00		
			Ramp-Limited Spin	20					
<u>Energy Calculations</u>			Undispatchable Replacement	0.00	<u>MWh</u>				
Undelivered IIE	0.00		Undispatchable Non-Spin	0.00					
Undelivered Residual IIE	0.00		Undispatchable Spin	4.17					
Undelivered Spin IIE	0.00								
Undelivered Non-Spin IIE	0.00								
Undelivered Replacement IIE	0.00								
Delivered Spin IIE	0.00								
Delivered Non-Spin IIE	0.00								
Delivered Replacement IIE	0.00								
Delivered AS IIE	0.00								

Example 3: Undelivered Capacity

<u>Forward Markets</u>		<u>MW</u>	<u>Undispatchable Capacity Calculations</u>		<u>MW</u>	<u>Undelivered Capacity Calculations</u>		<u>MWh</u>	<u>Unavail</u>
Replacement Schedule		0	P-Max		100	Dispatchable Replacement	0.00		Unavail
Non-Spin Schedule		30	Reported Max Availability		100	Dispatchable Non-Spin	5.00		
Spin Schedule		45	Maximum Bid Capacity		100	Dispatchable Spin	7.50		Unavail
Final HA Schedule		25	Maximum Bid Availability		100	Dispatchable AS Capacity	12.50		Unavail
<u>Expected Energy</u>		<u>MWh</u>	Incremental Op Res Availability		75	Undelivered Spin Capacity	0.00		
HRLY		4.17	DOT		0	Undelivered Non-Spin Capacity	2.17		
Residual IIE		0	Avail-Limited Replacement Capacity		0	Undelivered Replacement Capacity	0.00		
Spin IIE		0	Avail-Limited Non-Spin Capacity		30	Total No Pay	<u>MWh</u>		
Non-Spin IIE		5	Avail-Limited Spin Capacity		45				
Replacement IIE		0	Dispatched Non-Spin Capacity		0	No Pay for Non-Spin	2.17		
Total Expected Energy		9.17	Dispatched Spin Capacity		0	No Pay for Replacement	0.00		
<u>Meter Data</u>		<u>MWh</u>	Undispatched Non-Spin Capacity		30				
MSS Instruction		0.00	Undispatched Spin Capacity		45				
<u>Energy Calculations</u>			Ramp-Limited Non-Spin		30				
Undelivered IIE		2.17	Ramp-Limited Spin		45				
Undelivered Residual IIE		0.00	Undispatchable Replacement		0.00				
Undelivered Spin IIE		0.00	Undispatchable Non-Spin		0.00				
Undelivered Non-Spin IIE		2.17	Undispatchable Spin		0.00				
Undelivered Replacement IIE		0.00			<u>MWh</u>				
Delivered Spin IIE		0.00			0.00				
Delivered Non-Spin IIE		2.83			0.00				
Delivered Replacement IIE		0.00			0.00				
Delivered AS IIE		2.83			0.00				



Data Calculations

Example 4: Unavailable Capacity

<u>Forward Markets</u>		<u>MW</u>	<u>Undispatchable Capacity Calculations</u>		<u>MW</u>	<u>Undelivered Capacity Calculations</u>		<u>MWh</u>	<u>Unava</u>
Replacement Schedule		0	P-Max		100	Dispatchable Replacement		0.00	Unava
Non-Spin Schedule		30	Reported Max Availability		100	Dispatchable Non-Spin		5.00	
Spin Schedule		45	Maximum Bid Capacity		100	Dispatchable Spin		7.50	Unava
Final HA Schedule		25	Maximum Bid Availability		100				Unava
			Incremental Op Res Availability		75	Dispatchable AS Capacity		12.50	Unava
<u>Expected Energy</u>		<u>MWh</u>	DOT		0	Undelivered Spin Capacity		0.00	
HRLY		4.17	Avail-Limited Replacement Capacity		0	Undelivered Non-Spin Capacity		0.00	
Residual IIE		0	Avail-Limited Non-Spin Capacity		30	Undelivered Replacement Capacity		0.00	
Spin IIE		0	Avail-Limited Spin Capacity		45				
Non-Spin IIE		5	Dispatched Non-Spin Capacity		0	Total No Pay		<u>MWh</u>	
Replacement IIE		0	Dispatched Spin Capacity		0	No Pay for Spin		2.50	
Total Expected Energy		9.17	Undispatched Non-Spin Capacity		30	No Pay for Non-Spin		0.00	
			Undispatched Spin Capacity		45	No Pay for Replacement		0.00	
<u>Meter Data</u>		<u>MWh</u>	Ramp-Limited Non-Spin		30				
MSS Instruction		0.00	Ramp-Limited Spin		45				
<u>Energy Calculations</u>			Undispatchable Replacement		0.00				
Undelivered IIE		0.00	Undispatchable Non-Spin		0.00				
Undelivered Residual IIE		0.00	Undispatchable Spin		0.00				
Undelivered Spin IIE		0.00							
Undelivered Non-Spin IIE		0.00							
Undelivered Replacement IIE		0.00							
Delivered Spin IIE		0.00							
Delivered Non-Spin IIE		5.00							
Delivered Replacement IIE		0.00							
Delivered AS IIE		5.00							

Example 5: Undispatchable and Undelivered for Participating Load

<u>Forward Markets</u>		<u>MW</u>	<u>Undispatchable Capacity Calculations</u>		<u>MW</u>	<u>Undelivered Capacity Calculations</u>		<u>MWh</u>	<u>Unavail</u>
Replacement Schedule		0	P-Max		NA	Dispatchable Replacement		NA	Unavail
Non-Spin Schedule		60	Reported Max Availability		NA	Dispatchable Non-Spin		5.83	Unavail
Spin Schedule		0	Maximum Bid Capacity		NA	Dispatchable Spin		NA	Unavail
Final HA Schedule		40	Maximum Bid Availability		NA	Dispatchable AS Capacity		5.83	Unavail
<u>Expected Energy</u>		<u>MWh</u>	OR Inc Availability		56	Undelivered Spin Capacity		NA	
HRLY		6.67	DOT		60	Undelivered Non-Spin Capacity		5.83	
Spin IIE		0	Limited Replacement Capacity		NA	Undelivered Replacement Capacity		NA	
Non-Spin IIE		4.17	Limited Non-Spin Capacity		NA				
Replacement IIE		0	Limited Spin Capacity		NA				
Expected Energy		-2.5	Dispatched Non-Spin Capacity		-20	Total No Pay			
Meter Data		6.67	Dispatched Spin Capacity		NA	No Pay for Spin		NA	
<u>Energy Calculations</u>			Undispatched Non-Spin Capacity		80	No Pay for Non-Spin		10.00	Data
Undelivered IIE		4.1667	Undispatched Spin Capacity		NA	No Pay for Replacement		NA	Calc
Undelivered Residual IIE		NA	Ramp-Limited Non-Spin		55				
Undelivered Spin IIE		NA	Ramp-Limited Spin		NA				
Undelivered Non-Spin IIE		4.1667	Undispatchable Replacement		NA				
Undelivered Replacement IIE		NA	Undispatchable Non-Spin		4.17				
Delivered Spin IIE		NA	Undispatchable Spin		NA				
Delivered Non-Spin IIE		0.00							
Delivered Replacement IIE		NA							
Delivered AS IIE		NA							

Exhibit N

MMC Settlement Dispute Forms

Privileged -- Removed to Volume II

Exhibit O

Screen Shoot

Privileged -- Removed to Volume II