

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

California Independent System) Docket No. ER06-615-038
Operator Corporation)

**ANSWER TO COMMENTS, MOTION TO FILE ANSWER,
AND ANSWER TO PROTESTS, OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

The California Independent System Operator Corporation (“ISO” or “CAISO”) hereby submits its answer to certain issues raised in the comments and responses filed in this proceeding in response to the ISO’s January 16, 2009, submittal of an informational filing (the “Readiness Certification”) certifying the readiness of the ISO’s Market Redesign and Technology Upgrade initiative (“MRTU”) to go into effect on March 31, 2009.¹ The ISO also hereby submits a motion to file an answer and its answer to certain issues raised in the protests filed in the proceeding.²

¹ The following entities filed comments, responses, and/or protests in the proceeding: the California Department of Water Resources State Water Project (“SWP”); California Municipal Utilities Association (“CMUA”); California Public Utilities Commission (“CPUC”); Calpine Corporation; Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (collectively, “Six Cities”); City of Santa Clara, California, doing business as Silicon Valley Power; Dynegy Morro Bay, LLC, Dynegy Moss Landing, LLC, Dynegy Oakland, LLC, and Dynegy South Bay, LLC; Golden State Water Company (“GSWC”); J.P. Morgan Ventures Energy Corporation and BE CA LLC (together, “J.P. Morgan”); Mirant Energy Trading, LLC, Mirant Delta, LLC, and Mirant Potrero, LLC; Modesto Irrigation District; Northern California Power Agency; Pacific Gas and Electric Company (“PG&E”), San Diego Gas & Electric Company, and Southern California Edison Company (collectively, “Utilities”); Powerex Corp.; Sacramento Municipal Utility District; Transmission Agency of Northern California (“TANC”); Turlock Irrigation District; United States Department of Energy, on behalf of the Berkeley Site Office (“DOE-BSO”); Western Area Power Administration (“Western”); and Western Power Trading Forum (“WPTF”). GSWC and J.P. Morgan also filed motions to intervene out-of-time, which the ISO does not oppose.

² The ISO submits this filing pursuant to Rules 212 and 213 of the Commission’s Rules of Practice and Procedure, 18 C.F.R. §§ 385.212, 385.213 (2009). The ISO requests waiver of Rule 213(a)(2), 18 C.F.R. § 385.213(a)(2), to permit it to make an answer to the protests. Good cause for this waiver exists here because the answer will aid the Commission in understanding the issues in the proceeding, provide additional information to assist the Commission in the decision-

I. Executive Summary

The ISO submitted its January 16 certification in compliance with the Commission's directive that the ISO file, at least 60 days prior to MRTU implementation, an informational filing certifying market readiness.³ The Readiness Certification, which included declarations by the ISO President and Chief Executive Officer, ISO senior management responsible for MRTU development and implementation, the Director of the ISO's Department of Market Monitoring ("DMM"), and independent consultants retained by the ISO as part of the readiness and implementation effort, established that MRTU is on track for a successful implementation on March 31 (for an initial Trading Day of April 1), as long as important milestones are met and known issues are resolved.⁴

The ISO's Readiness Certification builds on volumes of information provided to the Commission and stakeholders documenting the ISO's progress towards a March 31 *go-live* date MRTU, including the monthly status reports submitted in this proceeding. Since the Readiness Certification was filed, the ISO provided a further update on the progress towards MRTU implementation in its February 2, 2009, status report filed in this proceeding. The status of MRTU implementation efforts was also discussed with stakeholders at the February 10, 2009, meeting of the ISO Board of Governors ("Board").

making process, and help to ensure a complete and accurate record. See, e.g., *Entergy Services, Inc.*, 116 FERC ¶ 61,286, at P 6 (2006); *Midwest Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,124, at P 11 (2006); *High Island Offshore System, L.L.C.*, 113 FERC ¶ 61,202, at P 8 (2005).

³ See *California Independent System Operator Corp.*, 116 FERC ¶ 61,274, at P 1414 (2006) ("September 21 Order").

⁴ Capitalized terms not otherwise defined herein have the meanings set forth in the Master Definitions Supplement, Appendix A to the ISO Tariff (also referred to as the MRTU Tariff), and except where otherwise noted, references to section numbers are references to sections of the ISO Tariff.

The comments, responses, and protests filed in response to the Readiness Certification discussed a number of issues and concerns related to MRTU readiness. While the ISO does not take any of these issues or concerns lightly, commenters generally discussed issues and concerns that the ISO already has addressed in its Readiness Certification and its monthly status reports. The ISO will continue to address these concerns in the status reports, in weekly postings of progress on remaining issues, and directly with Market Participants. The Commission and stakeholders will not benefit from a lengthy reiteration of these filings or the efforts the ISO already has undertaken to address these issues and concerns. In response to these comments, however, the ISO believes it is appropriate to highlight a few key points which reinforce the conclusion that MRTU is on track for a successful market launch and that the ISO has complied fully with the Commission's market readiness directives.

The most significant issues raised by commenters fall within the following five areas: market settlements; quality of price solutions generated by the MRTU market software; stability of MRTU software systems; and readiness of ISO Grid Operations and the Department of Market Monitoring. As explained in detail in the Readiness Certification and recent monthly status reports, the ISO – with substantial support and assistance from Market Participants – either has resolved or is on track to resolve the potential impediments to MRTU implementation in each of these areas. Recent efforts have resulted in substantial improvements to Market Participant settlement statements under MRTU simulations which will allow Market Participants to confirm that charges

can be calculated correctly based on the simulated system conditions and data inputs used during the simulations. The ISO has addressed quality of solution issues, and structured scenario testing has shown that anomalous high prices seen in earlier market simulations are not expected under normal market conditions. Since the ISO has moved to parallel operations earlier this year, the MRTU software systems have generally been quite stable, with only a handful of interruptions related to needed Grid Operations testing, testing of rolling systems to the backup site and related tests, and a major data update to the Master File.⁵ These interruptions will be minimal after March 1, 2009 when the ISO limits software updates to only those essential for MRTU *go-live*. Extensive training, testing, and practice with applications by Grid Operations personnel is well underway, and Grid Operations is on track to reliably implement the new systems on March 31. Similarly, the ISO's Department of Market Monitoring is ready to fulfill its important role in overseeing the market structure and has indicated that it sees no impediment to a March 31 *go-live* date. Each of these areas of focus is discussed in greater detail below.

A few commenters seem to suggest that *all* stakeholder issues related to MRTU must be resolved before market launch. The ISO strongly believes that the notion of a hypothetical and unrealistic "perfect" market launch should not be permitted to delay the benefits of the new market structure and improved software systems. The Commission's orders have recognized the significant

⁵ On February 17-18, the Integrated Forward Market stalled in response to an anomaly discovered during a major data update to the Master File. The ISO is investigating the incident and believes that modification to validation rules, monitoring and business processes can be in place to ensure the MRTU software has default Master File values to utilize during Master File updates.

benefits MRTU brings to California consumers. Similarly, the CPUC – in its written readiness comments in this proceeding and statements at the February 10 Board meeting supporting the March 31 *go-live* date – highlights the many benefits MRTU is designed to provide, including improved reliability by ensuring that adequate resources are available to the ISO; the allocation of costs, when possible, directly to those who cause them to be incurred; incentives and opportunities to maximize the efficient use of generation and transmission assets; and support for a framework of efficient infrastructure investment through resource adequacy, transmission planning, and integration of renewable energy resources.⁶

The Commission has experience with successful market launches by other independent system operators (“ISOs”) and regional transmission organizations (“RTOs”). In considering other readiness certifications, the Commission has recognized that every open issue need not be resolved in order for an ISO or RTO to certify market readiness in compliance with Commission requirements.⁷ The Commission instead focuses on whether all necessary steps for a successful market launch have been completed or will be completed prior to start-up and whether appropriate contingency plans are in place to address issues that arise after *go-live*, as they surely will. The ISO has satisfied this standard with its Readiness Certification and status reports in this proceeding.

⁶ See CPUC at 1-2.

⁷ See, e.g., *Southwest Power Pool Inc.*, 118 FERC ¶ 61,055, at P 20 (2007) (“We find that, although SPP has not satisfied absolutely every metric, it has substantially done so or is scheduled to do so as evidenced in its Certification filing”); see also *id.* at n.33 (“Similarly, in addressing Midwest Independent Transmission System Operator, Inc’s (Midwest ISO) market readiness certification filing, the Commission did not require all market metrics to be satisfied before Midwest ISO market start”), citing *Midwest Independent Transmission System Operator, Inc.*, 110 FERC ¶ 61,289 (2005).

The ISO recognizes and appreciates that the issues and concerns discussed in the MRTU readiness comments of various parties reflect a desire for a smooth and successful market launch. The ISO wishes to assure the Commission and stakeholders that it would not have submitted the Readiness Certification or maintained the current implementation schedule if it did not have a high degree of confidence that the MRTU systems, ISO personnel, and Market Participants will be ready for the new markets on March 31. In the final weeks leading up to the March 31 *go-live* date, there will be several opportunities to further assess progress. The ISO will provide its next update on MRTU readiness to the Commission and others in its March status report. In addition, the Board will review the organization's progress towards implementation at its meeting in late March. ISO management will keep Board members apprised of the progress, and the Board will consider scheduling a meeting in early March as appropriate. If for any reason the ISO determines that it cannot or should not launch MRTU on March 31, it will immediately inform the Commission and Market Participants.⁸

II. Answer to Comments, Responses, and Protests

A. Settlement Statements

Many of the commenters raise concerns about settlement-related issues under MRTU. The ISO has validated all the MRTU Charge Codes necessary for

⁸ This ongoing evaluation by the ISO is consistent with Commission precedent. In accepting a readiness certification for the Midwest ISO's markets based on locational marginal prices, the Commission noted that "the Midwest ISO indicates that it will continually evaluate outstanding issues, and will determine if a delay in market start-up is necessary. This process is in keeping with prior Commission statements that the market should not start if it is not ready, and that this determination should reflect the best judgment of the system operator." *Midwest Independent Transmission System Operator, Inc.*, 110 FERC ¶ 61,289, at P 38 (2005).

go-live, and they are calculating correctly on settlement statements, thereby allowing Market Participants to validate the Charge Codes. In addition, the ISO has implemented its price validation and price correction processes, and is developing the enhancement to allow anomalous prices to be reviewed prior to posting. These steps will enable Market Participants to validate their systems and to understand settlement statements produced by the MRTU systems.⁹ As part of this effort, the ISO agrees that it is appropriate for Market Participants to receive, prior to the *go-live* date, “clean” settlement statements, *i.e.*, settlement statements that give Market Participants all of the information they need to verify the charge amounts shown therein. Specifically, the settlement statements that the ISO is now providing in connection with market simulations will enable Market Participants to verify that: (i) the prices and quantities listed on their settlement statements match the prices and quantities derived from the running of the ISO’s MRTU market systems in the testing simulation, as corrected, (ii) the prices and quantities have been correctly multiplied together to yield accurate charge amounts; and (iii) each amount charged can be traced back to a valid Charge Code (*i.e.*, there is complete traceability from “bid to bill”).¹⁰

Some parties, however, have suggested that the “clean” settlement statements produced prior to market launch should not only meet the three criteria described above but also should include only “reasonable” charge

⁹ Readiness Certification at 11-12.

¹⁰ With regard to traceability from bid to bill, the ISO has validated the final Charge Codes necessary for *go-live*, as mentioned above, and the audit by PricewaterhouseCoopers of the ISO’s Settlements and Market Clearing (“SAMC”) software currently underway has not revealed any issues with the Charge Codes to date. PricewaterhouseCoopers is working with ISO staff and is on track to issue, prior to the close of the first Day-Ahead Market on the MRTU *go-live* date, its certified audit opinion regarding the SaMC software.

amounts that reflect the level of charges they expect to see in the production environment.¹¹ This expectation is unrealistic and ignores the realities of market simulation.

Based on two years of experience with market simulation, the ISO has learned that it is simply not possible to produce settlement statements that reflect the charge amounts that Market Participants can expect to see after *go-live*. As the ISO explained in the Readiness Certification, the unrealistically high charges reflected on some Market Participants' settlement statements are due to one or more factors attributable to the market simulation environment. These factors include software errors and other problems that have been since discovered and fixed. However, these changes only impact prospective Trading Days; that is, the ISO does not re-run the prior days that may have been affected by the error.¹² Still other factors are that not all Market Participants participate or participate fully in the bidding and scheduling of their resources, or Market Participants are testing market strategies that impact both their portfolio and the entire market prices, or training their staff who are not yet fully cognizant of how their actions could result in high prices in the Real-Time Market and high charges on invoices. In the currently effective market, the ISO has only a real-time market, so participants do not fully understand the exposure of not fully participating in the Day-Ahead Market, which is financial binding under MRTU.

¹¹ See, e.g., Six Cites at 6-12; Utilities at 6-7.

¹² As an example, if a software fix for the Real-Time Market required a piece of data to be sent to settlements, and the fix was applied to the simulation environment on February 1, then only settlements for February 2 forward would include the fix. The only way to effectuate a fix prior to February 2 would be to re-run every 5-minute interval, a resource-intensive effort that the ISO believes is not warranted in a market simulation environment.

In addition to the factors described above, other reasons for the high charge amounts in market simulation were the scenarios involving demand and supply deviations in which all Charge Codes fired. To assist participants, the ISO automatically generates simulation meter data based on the Day-Ahead Awards and Schedules. Then the meter application is opened to participants to overwrite the data prior to settlements. In order to test the Charge Code functionality, the ISO deliberately underscheduled both demand and supply, which created large deviation charges.¹³ For example, in December the ISO purposely incorporated meter data that resulted in the appearance of underscheduling 10 percent of demand in the Day-Ahead Market during peak Demand conditions (e.g., the conditions during a hot summer day) with the objective of triggering every single Charge Code.¹⁴ In addition, the ISO has been performing operational scenarios including line derates of major paths, overload of interties, emergency assistance to other balancing authority areas, and Exceptional Dispatches. The ISO's testing intentionally "stresses" the functionality of the MRTU systems in order to determine how well those systems will perform in extreme conditions. The ISO has found this to be a much more useful tool for assessing the strengths and weaknesses of the functionality, and thus for indicating where improvements need to be made, than testing it in the circumstances the ISO expects will normally apply after *go-live*. This approach to testing does not, however, result in

¹³ Readiness Certification at 13.

¹⁴ Deborah Le Vine, the Director of Market Services and MRTU Program Manager for the ISO, discussed this testing at the February 10 Board meeting. December simulation was still based on the summer forecasted demand. The simulation did not move to a winter forecast and winter load duration curve until January 2009.

monthly settlement statements that reflect the level of charges expected in the production environment.

By contrast, in the production environment, the ISO will receive meter data directly from all ISO Metered Entities and SC Metered Entities. Market Participants will have every incentive to participate in the bidding and scheduling of resources in order to serve Load because the financial consequences will be real. Consequently, the ISO strongly believes that the net charges reflected on settlement statements after *go-live* should not, in general, be materially different under MRTU as compared with charges under the current ISO market design, adjusted for the additional markets.¹⁵

In order to determine whether the MRTU software would produce realistic prices in normal operating conditions and with bids and schedules reflecting reasonable assumptions about market participant behavior, the ISO also conducted structured operational price testing designed to examine the likelihood of anomalous prices during normal system conditions. As explained in the next section of this answer and in the January report of the DMM attached to the Readiness Certification, this testing demonstrates that the vast majority of prices would fall within a reasonable range, with very few outliers, and that there is no reason to delay implementation of MRTU. The ISO is addressing and will continue to address concerns about anomalous prices as discussed below and in the Readiness Certification. However, given the inherent limitations of the market simulation environment and the lack (and kind) of participation in market simulation, it is unrealistic to expect that simulation settlement statements will

¹⁵ Readiness Certification at 13-14.

reflect the level of charges expected to be seen in the production environment. ISO staff are available to help Market Participants understand why correctly produced charges appear excessive and inconsistent with reasonable expectations. The objective of a “clean” settlement statement prior to market launch, however, should be satisfied by providing settlement statements that contain all of the information needed by Market Participants to verify the charge amounts shown therein.

B. Quality of Price Solutions

Some commenters suggest that the ISO’s Readiness Certification is premature because the market simulation has resulted in Locational Marginal Prices (“LMPs”) and other prices that are too high.¹⁶ As discussed in Section II.A, above, the high charges reflected on some market simulation settlement statements are due to inherent limitations in the simulation environment. Other pricing anomalies were the result of software variances observed in market simulation. Where software problems were identified, the ISO fixed and extensively tested the software. As a result of these efforts, the ISO is confident that the MRTU software is producing correct prices and that prices will be reasonable in the vast majority of pricing intervals. Moreover, the ISO has implemented its price validation and price correction processes that analyze anomalous prices and corrects them.

This conclusion is corroborated by a report recently issued by the DMM. In December, the ISO’s MRTU program team, in consultation with the DMM,

¹⁶ See, e.g., DOE-BSO at 6-7; Western at 4-6, 11. The ISO would note that DOE-BSO is not a Scheduling Coordinator, Western schedules on DOE-BSO’s behalf, and the ISO provides statements and invoices to Scheduling Coordinators.

developed and performed a structured operational pricing test for the Day-Ahead and Real-Time Markets (including evaluation of anomalous positive and negative LMPs, price differentials at Load Aggregation Points (“LAPs”), evaluation of Residual Unit Commitment (“RUC”) outcomes, and price convergence issues), based on relatively normal conditions.¹⁷ The DMM provided an in-depth assessment of the results of the structured operational pricing test in the report provided as Attachment 9 to the Readiness Certification.¹⁸ Among other things, the DMM found that the vast majority of prices were reasonable; the RUC prices paid to non-resource adequacy capacity were generally moderate and high LAP prices were limited to just a few 5-minute intervals.¹⁹ The DMM did not find any performance issues that would warrant a delay in MRTU implementation.²⁰ The DMM also concluded that no changes to the RUC design are warranted at this time.²¹ Further, the DMM Report indicated that Local Market Power Mitigation (“LMPM”) procedures are effective and working as intended, but that the LMPM procedures fail to run in the Real-Time Market or are skipped approximately five percent of the time.²² Consistent with DMM recommendations in that report, the ISO is closely tracking the root cause of this problem and believes that the frequency will be reduced between now and *go-live*. In addition, the DMM is

¹⁷ Readiness Certification at 8-9.

¹⁸ “Review of California ISO MRTU Structured Market Simulation Results Trade Days – December 9-12, 2008,” Department of Market Monitoring (Jan. 16, 2009) (“DMM Report”).

¹⁹ *Id.* at 2, 14, 17. Keith Casey, the Director of the DMM, discussed the price issues addressed in the DMM Report in a presentation to the Board during its February 10 meeting. See “Review of MRTU Structured Market Simulations” (presentation by Dr. Keith E. Casey) at slide 3. This presentation is available on the ISO website at <http://www.caiso.com/2351/23519dc173b90.pdf>.

²⁰ *Id.* at 1.

²¹ *Id.* at 2.

²² *Id.*

working with the ISO to develop, consistent with the price correction authority in the MRTU Tariff, a process to correct prices, as appropriate, in the event the LMPM procedures fail.

On February 19, 2009, ISO staff and the DMM will host a stakeholder meeting on quality of solution issues which, among other things, will include a discussion of the DMM Report. To the extent that meeting results in the identification of any issues that have a material impact on the implementation of MRTU, those issues will be addressed in the ISO's March MRTU status report.

The ISO expects that extreme, anomalous prices will be at most an infrequent occurrence after *go-live*, and to the extent such prices do occur, the ISO has tariff authority to validate and correct prices. In addition the Commission has recently approved an amendment to the MRTU Tariff establishing a price cap of \$2,500/MWh and a price floor of minus \$2,500/MWh on the LMPs, RUC prices, and Ancillary Services marginal prices in all of the MRTU markets.²³

Notwithstanding the DMM Report and the ISO's existing authority to address high prices after market launch, some commenters request that the ISO implement changes to the MRTU Tariff prior to *go-live* to address the potential for high prices and high charges on ISO invoices under the new market design. For example, CMUA proposes that the ISO implement an "interim payment mechanism" that would allow Scheduling Coordinators to make an interim payment based on settlements in historic periods rather than payments based on actual MRTU market outcomes in connection with an investigation and resolution

²³ *California Independent System Operator Corp.*, 126 FERC ¶ 61,082 (2009).

of the reasons for extreme high prices.²⁴ CMUA concedes that this is still a conceptual proposal, with many implementing details to be determined. This proposal is opposed by many stakeholders.²⁵ The ISO believes the proposal is unnecessary and counter-productive at this time, as it would require substantial efforts by both ISO staff and stakeholders to address an issue that is not expected to materialize in the production environment. The efforts of both the ISO and Market Participants should be focused on preparing for *go-live* rather than trying to work through new proposals, particularly ones that other commenters have already stated they oppose.

The ISO's MRTU *go-live* support plan includes an early assessment of Market Participants' accruing liabilities, and the market will now also include price caps and the price correction authority described above, including a business process to block prices that may be incorrect or appear anomalously high until they can be reviewed. If extreme, anomalous prices were to materialize after MRTU *go-live* that could not be fully addressed by these steps, the ISO would consider measures comparable to those proposed by CMUA and would be able to act swiftly. For example, the ISO could request that the Commission grant an emergency waiver of tariff provisions (including provisions that would otherwise require the timely payment of high charges). Such a filing could be made very quickly and would not require ISO Board approval. The ISO could then file an emergency tariff amendment following a specially noticed meeting of the Board of Governors to put in place interim measures along the lines suggested by

²⁴ CMUA at 7-11 and Appendix A.

²⁵ See, e.g., WPTF at 6-7 (stating that WPTF opposes the application of generic means of offering relief to one Market Participant or another for settlement overcharges).

CMUA. At this point, CMUA's proposal is simply premature and unjustified.²⁶ Similarly, the ISO believes that it would be premature to pursue WTPF's suggestion that the ISO extend the window for submitting payment disputes,²⁷ although the ISO would certainly consider this option in the event circumstances warranted it, particularly if there were broad stakeholder support. At this time, however, all of the ISO's and Market Participants' resources are best focused on ensuring that the need for such filings will not arise at all.

C. Real-Time Operations and Other Software Issues

Some commenters contend that the ISO needs to address certain real-time operational or other software issues prior to *go-live*.²⁸ Many of these issues are already captured in the list of thirteen "Known Issues" requiring resolution prior to *go-live* that the ISO included in the Readiness Certification,²⁹ or in the two additional Known Issues requiring resolution that Stephen Berberich, the ISO's Vice President of Corporate Services, included in his presentation to the Board on February 10.³⁰ As of the date of this filing, all fifteen of the fifteen Known Issues have been resolved and ten of the fifteen have been implemented. The ISO publishes a weekly status report on Fridays and will discuss the status of

²⁶ The ISO notes that CMUA had the option of filing a Section 206 complaint seeking a Commission order to direct the ISO to adopt the proposed interim payment mechanism. Such a filing could not be successful, however, because a complainant could not satisfy the burden of demonstrating that the existing terms of conditions of the MRTU Tariff accepted by the Commission are not just and reasonable without such a mechanism.

²⁷ WPTF at 6.

²⁸ See, e.g., SWP at 1-5 (discussing software issues related to SWP's pumped storage generating facilities); Utilities at 12-13 (listing several real-time operations issues).

²⁹ See Readiness Certification at 27-28.

³⁰ The two additional known issues are: (1) address real-time results of enforcing Ancillary Service requirements and awards and (2) provide a Dispatch Operating Target breakdown for contingency dispatch. See "MRTU Briefing" (presentation by Stephen Berberich) at slide 3 ("MRTU Briefing"). This presentation is available on the ISO website at <http://www.caiso.com/2351/23519dc273b92.pdf>.

these issues in its monthly MRTU status reports. The ISO notes that this approach of maintaining and regularly updating lists of Known Issues is consistent with the approach adopted by RTOs in previous market readiness certifications accepted by the Commission.³¹

To the extent the ISO's current list of Known Issues does not capture concerns that commenters have about the MRTU software, the ISO intends to work with commenters to address those remaining concerns. In this regard, the ISO truly appreciates the constructive nature of parties' comments. For example, parties such as WPTF, NCPA, and SWP explained in their comments that, although they have many issues they would like the ISO to address or consider, they have only a limited number of issues that they believe must be addressed prior to *go-live*. The ISO is evaluating the issues raised in the comments and will respond to each commenter as to whether the ISO believes a particular issue is included among the Known Issues that must be resolved prior to *go-live*; if the issue should be added to the Known Issues list; if the stated concern is not a material issue and why; or if the stated concern is an issue that can be addressed after *go-live*. Moreover, updated versions of the Known Issues list are posted on the ISO website on a weekly basis.³² The ISO's March MRTU status report will also include an update on the status of Known Issues and remaining MRTU milestones. The ISO's demonstrated commitment to resolve these

³¹ "In addition to the Readiness Metrics, SPP created a Go Live issues list noting 26 items that must be corrected/completed prior to market implementation. SPP states in its Certification that 12 items remain outstanding with minor tasks that are on track for completion prior to market start its systems necessary for market operations are sufficiently stable and provide the functionality required to support the imbalance market." *Southwest Power Pool Inc.*, 118 FERC ¶ 61,055, at P 20.

³² The weekly updates are available on the ISO's website at the following link: <http://www.caiso.com/20ad/20adba2452b30.html>.

software issues is a fundamental component of its conclusion that MRTU is on track for a successful implementation on March 31. In the event that any commenter identifies a software issue that has a material impact on the MRTU implementation date, the ISO will inform the Commission and stakeholders as soon as possible.

PG&E states that it has concerns about the ISO's decision not to conduct a closed loop test of the MRTU software as discussed in the Readiness Certification.³³ The ISO will be conducting closed loop testing as Jim Detmers indicated at the February 10 Board meeting. The ISO has already conducted one closed loop test on a small set of units on Automatic Generation Control ("AGC") on February 12 and another test is scheduled for February 20 to be conducted on a larger set of AGC units.

The closed loop tests that the ISO will be conducting are referred to as "Partial Closed Loop Tests." The purpose of these tests is to integrate the Energy Management System ("EMS") production application with MRTU software to perform cutover activities in preparation for *go-live*. During these tests the ISO sends control signals that are calculated by current production AG but that are based on the dispatch instructions received from the MRTU Real-Time Market applications. The Real-Time Market applications will then send look-ahead dispatches to select current production AGC for various units within their regulating range for two hours under close supervision and controlled environment. Utilizing AGC control units enables the ISO to primarily focus

³³ Utilities at 16.

testing on specific resource feedback and connectivity between production EMS and MRTU.

During these tests the ISO believes that resource operators can also further conduct a closed loop test of their resources to evaluate the performance of their resource to the MRTU dispatch instruction. Resources will receive both the dispatch instructions produced both under the current Real-Time Market application and under the MRTU Real-Time Market applications. The ISO is expecting that resources will continue to adhere to Real-Time Market application instructions but recognizes that resource owners may choose to follow the MRTU Real-Time Market dispatch instructions to test their own systems. If participants intend to deviate from the RTMA dispatch for this purpose, the Scheduling Coordinator must notify the ISO of their intent to do so. Following MRTU Real-Time Market instructions could subject Scheduling Coordinators to current tariff provisions that apply to deviations from the current market dispatch instructions. The ISO believes that the performance of these tests should address PG&E's concerns.

D. System Stability

Some commenters raise issues regarding system stability.³⁴ While the ISO acknowledges that system stability concerns were a significant issue in the market simulation environment, since the ISO moved to parallel operations simulation in January,³⁵ the ISO's systems have been quite stable except for periods when grid operators have been performing operational stress tests and

³⁴ See, e.g., Utilities at 13-14; WPTF at 11-14.

³⁵ See Readiness Certification at 14.

when systems have been rolled to the backup ISO site. On February 17-18, the Integrated Forward Market stalled in response to a major Master File update. The ISO is investigating the incident and believes that rules can be in place to ensure the MRTU software has default Master File values to utilize during Master File updates. These interruptions will be minimal after March 1, 2009 when the ISO limits software updates to only those essential for MRTU *go-live*.

Although system operations testing, which is part of parallel operations simulation, has caused occasional small interruptions in the MRTU systems, such sporadic interruptions do not give rise to any significant stability issues. Moreover, the ISO will issue Market Notices to apprise Market Participants when tests will occur. Based on experience in the parallel operations environment, the ISO is confident that the MRTU software systems are sufficiently stable for *go-live* on March 31. If any problems arise that would cast doubt upon this conclusion, the ISO will promptly advise the Commission and Market Participants.

E. Market Monitoring

Another area of concern for some commenters relates to market monitoring. As explained in the Readiness Certification, the DMM has capabilities in place to monitor general market performance and specific areas of the MRTU market design such as LMPM effectiveness, bid parameters relating to unit operating characteristics, uninstructed deviations, activities on the interties, market up-lifts, and load under-scheduling. The DMM is also equipped with necessary monitoring tools, including a highly automated monitoring system

and a dedicated simulation tool to re-run market “saved cases” for purposes of market monitoring. The DMM is therefore ready to perform the important role of overseeing the performance of new markets.

Moreover, the DMM has consulted frequently with the ISO Market Surveillance Committee (“MSC”) in developing its MRTU monitoring metrics and analytic approaches,³⁶ and the MSC continues to work with the DMM on MRTU readiness issues. At the February 10 Board meeting, James Bushnell, a member of the MSC, stated that the MSC has identified no reason to postpone MRTU *go-live* beyond March 31.

The DMM, along with other ISO staff, has also played a vital role in the development of the ISO’s post-implementation contingency planning. As explained in the Readiness Certification, the ISO’s contingency planning activities include the establishment of an Operations Center and a Solutions Center that will be staffed around-the-clock shortly before *go-live* and as long as necessary after *go-live*. The Rapid Response Team is a part of this effort and will be available around the clock to respond to any market issues that may arise.³⁷

In the past month, the ISO has developed a more detailed internal structure for undertaking these activities. Pursuant to the internal structure, the around-the-clock staffing will include an ISO officer-in-charge overseeing the market monitoring activities of an ISO staff member who will serve as a “quarterback” for purposes of working with the various ISO departments

³⁶ See *id.* at 17 and Attachment 5 (Declaration of Keith Casey).

³⁷ Readiness Certification at 19.

(including the DMM, Information Technology, and Legal) to evaluate and address any market issues. Mr. Berberich, the ISO's Vice President of Corporate Services, discussed the details of this structure at the Board's February 10 meeting.³⁸ Mr. Berberich also explained that, for at least 30 days after *go-live*, the ISO will have a proactive support plan in place that will host multiple daily phone calls, will constantly monitor prices and dispatches, and will seek to identify problems before they impact the market or settlements.³⁹ ISO staff will be providing additional details at its February 18, 2009 MRTU implementation workshop. These activities will ensure that the ISO will be able to identify, evaluate, and address any issues arising after MRTU *go-live* in a timely manner.

At the February 10 Board meeting, PG&E, consistent with its filed comments, proposed that the Rapid Response Team should undertake drills prior to *go-live* that simulate how the team will act when disruptions in the market occur and that Commission staff, the CPUC, and perhaps others should observe these drills.⁴⁰ While the ISO will continue to make information on the MRTU *go-live* support plan available to Market Participants and does intend to conduct drills between now and MRTU *go-live*, the ISO does not believe it is necessary to conduct drills subject to observation. Requiring the ISO to conduct observable drills would provide few if any additional benefits to Market Participants and would only serve to distract the ISO and Market Participants from their preparations for MRTU start-up. Notably, although the Commission has required other ISOs and RTOs to have transition and reversion (*i.e.*, contingency) plans in

³⁸ See MRTU Briefing at slide 7.

³⁹ *Id.* at slide 6.

⁴⁰ See Utilities at 15-16.

place prior to market start-up,⁴¹ the Commission has never required the kind of drills proposed by PG&E, let alone required that they be observable.

F. Action on Pending Commission Filings

In the Readiness Certification, the ISO respectfully requested the Commission to rule on certain ISO filings prior to *go-live*. Among the filings the ISO listed were proposed tariff revisions regarding Exceptional Dispatch (Docket Nos. ER08-1178 and EL08-88) and the filing to comply with the Commission's order conditionally accepting the ISO's Integrated Balancing Authority Area ("IBAA") filing (Docket No. ER08-1113).⁴² The ISO stated that, although Commission action on these filings prior to *go-live* was not essential from an operations perspective, such action would avoid any need to provide refunds after *go-live*.⁴³ The ISO agrees with parties that orders in these dockets on pending filings are important and notes that an order in the Exceptional Dispatch proceeding is scheduled to be discussed at the Commission's meeting on February 19, 2009.

Some parties, however, raise substantive issues regarding the IBAA, including arguments that implementation of the IBAA proposal should be delayed because of lack of training, the need for an IBAA Business Practice Manual

⁴¹ See, e.g., *Southwest Power Pool Inc.*, 116 FERC ¶ 61,053, at P 53 (2006).

⁴² The Commission accepted the ISO's IBAA filing, to be effective as requested by the ISO, subject to modification and a compliance filing, in *California Independent System Operator Corp.*, 124 FERC ¶ 61,271 (2008) ("IBAA Order").

⁴³ Readiness Certification at 29. Moreover, with respect to the Exceptional Dispatch provisions, the ISO stated that Commission action prior to *go-live* would provide greater certainty on compensation and settlement issues. *Id.*

("BPM"), and pricing results of IBAA transactions in market simulation.⁴⁴ The Commission should reject these arguments.

First, with respect to the training requested by Market Participants, the ISO has scheduled additional training for import and export scheduling and settlements with a special focus on IBAA transactions. This training is scheduled for February 24, 2009. Although the ISO is providing training as requested, the scheduling and settlement of IBAA transactions is not materially different as a result of the IBAA Order. The rules that apply generally to all intertie transactions also apply to IBAA transactions. The primary difference is that the price for IBAA transactions in settlements will be based on a different modeling approach than non-IBAA transactions.

Second, the absence of BPM language related to the IBAA proposal is not grounds to delay implementation of IBAA. In its Readiness Certification filing, the ISO stated that certain aspects of the BPMs are to be further enhanced before *go-live*.⁴⁵ The addition of BPM language to implement the IBAA modeling and pricing approach is one such example. The IBAA modeling approach will be discussed in the BPM for the Full Network Model and in other BPMs such as the BPM for Market Operations and BPM for Market Instruments. These updated BPMs will be posted no later than mid-March, 2009. Importantly, the details to be included in these BPMs will be consistent with the same details previously distributed on the record of the IBAA proceeding.

⁴⁴ See, e.g., TANC at 10-14; Western at 11-12.

⁴⁵ See Readiness Certification at Attachment 8 (MRTU Readiness Dashboard dated January 16, 2009), pages 2-5.

Third, arguments related to “incorrect” IBAA pricing results in market simulation have no merit. Parties state they have observed multiple prices from imports and exports within the same Trading Hour and argue that these multiple prices contravene the Commission’s direction to implement a single pricing hub. To the contrary, the LMPs for IBAA transactions are consistent with the IBAA Order and with the provisions of the MRTU Tariff which take into account scheduling constraints. The possibility that IBAA prices could diverge was fully anticipated as explained in the testimony of ISO expert witnesses Mark Rothleder and James E. Price in the IBAA proceeding.⁴⁶ Under the IBAA single hub modeling and pricing approach, the pricing for all twelve Scheduling Points may not be the same under all circumstances. In particular, if a scheduling limit is reached at one of the Scheduling Points, the price for that Scheduling Point will separate from the prices at other Scheduling Points. Under normal operating conditions, the scheduling limit is expected to be reached rarely since external Balancing Authority Areas limit the amount of schedules at the Scheduling Point pursuant to their established contract path and Open Access Transmission Tariff reservations.⁴⁷ Under market simulation conditions, the ISO and Market Participants have conducted multiple simulations of stressed system conditions

⁴⁶ See Amendments to MRTU Tariff Provisions, Docket No. ER08-1113-000 (June 17, 2008), Exh. ISO-1 (Prepared Direct Test. of Mr. Rothleder and Dr. Price) at 55:18-57:2.

⁴⁷ Scheduling limits are established and registered at the specific interconnections with the ISO’s neighboring Balancing Authority Areas, as required by North American Electric Reliability Corporation (“NERC”) and Western Electricity Coordinating Council (“WECC”) scheduling practices. These NERC and WECC requirements obligate the neighboring Balancing Authority Areas to coordinate schedules and perform tagging and checkout processes consistent with the registered scheduling limits. Modification of the scheduling limits would require coordination and agreements with interconnected Balancing Authority Areas and possibly regional studies to establish such aggregate scheduling limits. Rather than undertake the significant steps required for modification, the ISO has retained the established scheduling limits and will continue to honor those same limits under MRTU as it does under its current market design.

that included derates of inertia capacity. These stressed conditions are precisely the type of infrequent conditions under which the scheduling limits are likely to be reached.

Finally, the Commission conditionally approved the IBAA proposal and authorized its implementation simultaneously with MRTU *go-live*.⁴⁸ The ISO has submitted its IBAA compliance filing and is now awaiting a Commission decision. Accordingly, parties' requests that IBAA not be concurrently implemented with MRTU⁴⁹ should be rejected as the Commission has determined that the ISO has "justified the need for the IBAA proposal to be implemented simultaneously with the start of the MRTU program."⁵⁰

⁴⁸ IBAA Order at PP 405-07.

⁴⁹ See, e.g., TANC at 7-9.

⁵⁰ IBAA Order at P 350.

III. Conclusion

For the reasons explained above and in the Readiness Certification, the ISO respectfully requests that the Commission accept the Readiness Certification as complying with the directives in the September 21 Order.

Respectfully submitted,

/s/Sidney M. Davies

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Dated: February 18, 2009

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all of the parties listed on the official service list for the above-referenced proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Washington, D.C. this 18th day of February, 2009.

/s/ Bradley R. Miliauskas
Bradley R. Miliauskas