California Independent
System Operator Corporation

Memorandum

To: ISO Board of Governors

From: Steve Berberich, Vice President of Technology and Corporate Services and Chief Financial Officer

Date: October 21, 2009

Re: **Briefing on 2009-2011 Market Initiatives Release Plan**

This memorandum does not require Board action.

EXECUTIVE SUMMARY

In September 2009, Management presented the *2009-2011 Market Initiatives Release Plan* outlining the high-level milestones for several strategic initiatives currently in development. Since that time, a number of milestones have been completed and, in ongoing consultation with market participants, the ISO has further developed the plan.

Since the last Board update, the new solar forecasting capabilities associated with the Participating Intermittent Resource Program (PIRP) have been completed. Also of note, we completed the payment acceleration market simulation and are on track for a November 1 implementation. Further details associated with the release of capabilities to the marketplace are detailed in this document and highlighted in Attachment 1 – The Release Plan with a companion critical path analysis in Attachment 2.

THE RELEASE PLAN

While the release plan remains largely unchanged from the previous update, we have made a few changes to the overall plan:

- Procurement of ancillary services in hour ahead scheduling process (HASP) was added to the Spring 2010 release; and

- Additional milestones for proxy demand resource implementation are identified.

Post summer release

The post summer release addresses certain critical operational requirements and market enhancements. We have made significant progress since the last update and are on track for timely implementation of all post summer release elements.

- The application managing wind resource forecasting was enhanced to include solar forecasting, as of October 5, 2009;
- The market bidding interface enhancements were deployed on September 1, 2009;
- The simplified ramp rate accounting approach is currently in market simulation and on track for deployment on November 5, 2009;
- The external user interface to the master file database was deployed on September 21, 2009 with the programmatic interface offered in mid-October; and
- The ISO is ready for daylight savings time change on November 1, 2009; and the next network model update, including transition to winter ratings, is on track for November 3, 2009.

Payment acceleration

Payment acceleration reduces credit risk by shortening the time between trade date and market clearing. The ISO Board of Governors approved this initiative in December 2008 and the ISO filed the associated tariff changes with the Federal Energy Regulatory Commission (FERC) on June 1, 2009. FERC approved the payment acceleration proposal with slight modifications, and implementation is on track for November 1, 2009 based on the following:

- We successfully completed a dry run on October 5, 2009 with no outstanding high priority issues;
- The ISO offered four training sessions in October in Folsom and Alhambra;
- A survey shows that most market participants will be ready for deployment on November 1, 2009, and Management is conducting outreach with those participants who indicate they will not be ready; and
- ISO internal readiness is complete.

Winter 2009 release

The winter 2009 release will implement a standardized resource adequacy capacity product which fulfills a highly-ranked stakeholder need. The standard capacity product, approved by the Board in March 2009, ensures efficiency and reliability in resource adequacy

contracting and trading. The project is currently on track for a December 2009 deployment and a January 1, 2010 effective date, and the ISO is undertaking the following readiness activities.

- The ISO has prepared and made available to market participants technical documentation and business practice manual changes;

- The ISO is offering training opportunities in October and November in Folsom and Alhambra; and

- The ISO has posted draft market simulation scenarios in anticipation of three phases of market simulation that will run from late October through mid December.

Spring 2010 release

The spring 2010 release will deliver key market functionalities that were deferred until the year after *go live*. It includes four key initiatives: *Multi-Stage Generating Unit Modeling, Scarcity Pricing, Proxy Demand Resources* and *Procurement of Ancillary Services in HASP*.

Multi-Stage Generating Unit Modeling incorporates software functionality for units with multiple configurations, such as combined cycle generating plants or resources with forbidden operating regions. It also addresses the deferred implementation of real time enforcement of forbidden operating region functionality. The current status of this initiative is as follows:

- Software design of the market applications is complete and software development is underway;

- Management is working to integrate and simplify the functionality with internal applications; and

- Management is currently evaluating internal development, testing schedules and stakeholder input, which may extend the release of this modeling initiative until fall 2010. That would allow sufficient time to evaluate the market outcomes and solution quality. This will also allow market participants enough time to accurately, effectively and economically model their generators in order to fully benefit from the multi-stage generator models.

Scarcity Pricing enhances the current pricing mechanism and raises ancillary services prices if there are insufficient ancillary services bids to meet procurement targets. In its *September 2006 MRTU Order*, FERC required the ISO to implement a more comprehensive reserve shortage mechanism within 12 months of the new market implementation.

- The policy and market design stakeholder process is scheduled to finish in the fall of 2009. The draft final proposal will be presented to the Board in December 2009;

- Due to the relatively small level of effort required and software applications impacted, Management is on track to deliver this mechanism in the requisite timeframe of one year after new market deployment; and

- A November 10, 2009 release planning workshop will focus on the requirements and implementation of scarcity pricing.

Proxy Demand Resource is a new demand response product designed to meet the requirements for comparable treatment of generating and non-generating resources and to allow demand resources to directly participate in the markets in accordance with *FERC Order 719*. Based on Board approval in September 2009, Management is moving forward with implementation as follows:

- External business requirement specifications were posted in mid-October will be discussed at the release planning workshop on November 10, 2009;

- Draft technical specifications will be available in mid-November and will address the registration, bidding, and market output changes; and

- Management is contracting with the selected vendor of a new system for registration, baseline calculation, measurement and validation of proxy demand resources.

Procurement of Ancillary Services in HASP proposes solutions to the problem of how to dispatch energy from operating reserves procured from non-dynamic system resources in the hour-ahead timeframe. Management deferred this functionality in October 2008 and anticipated addressing it six to nine months after the new market deployment. Also based on Board approval in September 2009, Management is moving forward with implementation as follows:

- Provides external business requirements specifications in mid October for discussion at the release planning workshop on November 10, 2009;

- Publishes any required technical specifications in mid-December; and

- Anticipates implementation with the other spring 2010 functionality.

Early 2011 Release

The early 2011 release implements convergence bidding and further refinements to the participating load program.

Convergence bidding allows market participants to place purely financial bids at particular pricing nodes in the day-ahead market. If these bids are cleared in the day-ahead market, they are then liquidated in the opposite position in the real-time market. The market participant thus earns or is charged the difference between the day-ahead price and the real-time price at the location of the bid. Convergence bidding will enable market participants to hedge against real-time

market price volatility and will provide other market efficiency benefits through increasing price convergence between day-ahead and real-time prices.

- A final conceptual design proposal will be presented to the Board in October 2009;

- FERC's *September 21, 2006 MRTU Order* directed the ISO to implement convergence bidding within 12 months after new market deployment. Based on the business requirements and the technical challenges within the software design, implementation is not achievable in this timeframe. The ISO intends to file with FERC a request for extension of the implementation schedule to February 1, 2011;

- Management is actively engaged with its primary software vendor in the software design phase and is conducting tests to determine practical limits to make the software implementation more predictable. Results of these efforts are shared with stakeholders through the Convergence Bidding Working Group, which meets on a bi-weekly basis; and

- While the current plan is to implement convergence bidding in February, 2011, Management will explore earlier release opportunities after evaluating the vendor's design in late 2009.

Participating load refinements introduces bidding rules that will allow participating load resources to be bid and optimized in the market, as are generating resources. These refinements will help complete the demand response product offering. We anticipate significant implementation work associated with the expected more than 200 new bidding rules and will further evaluate implementation plans after the design is complete.

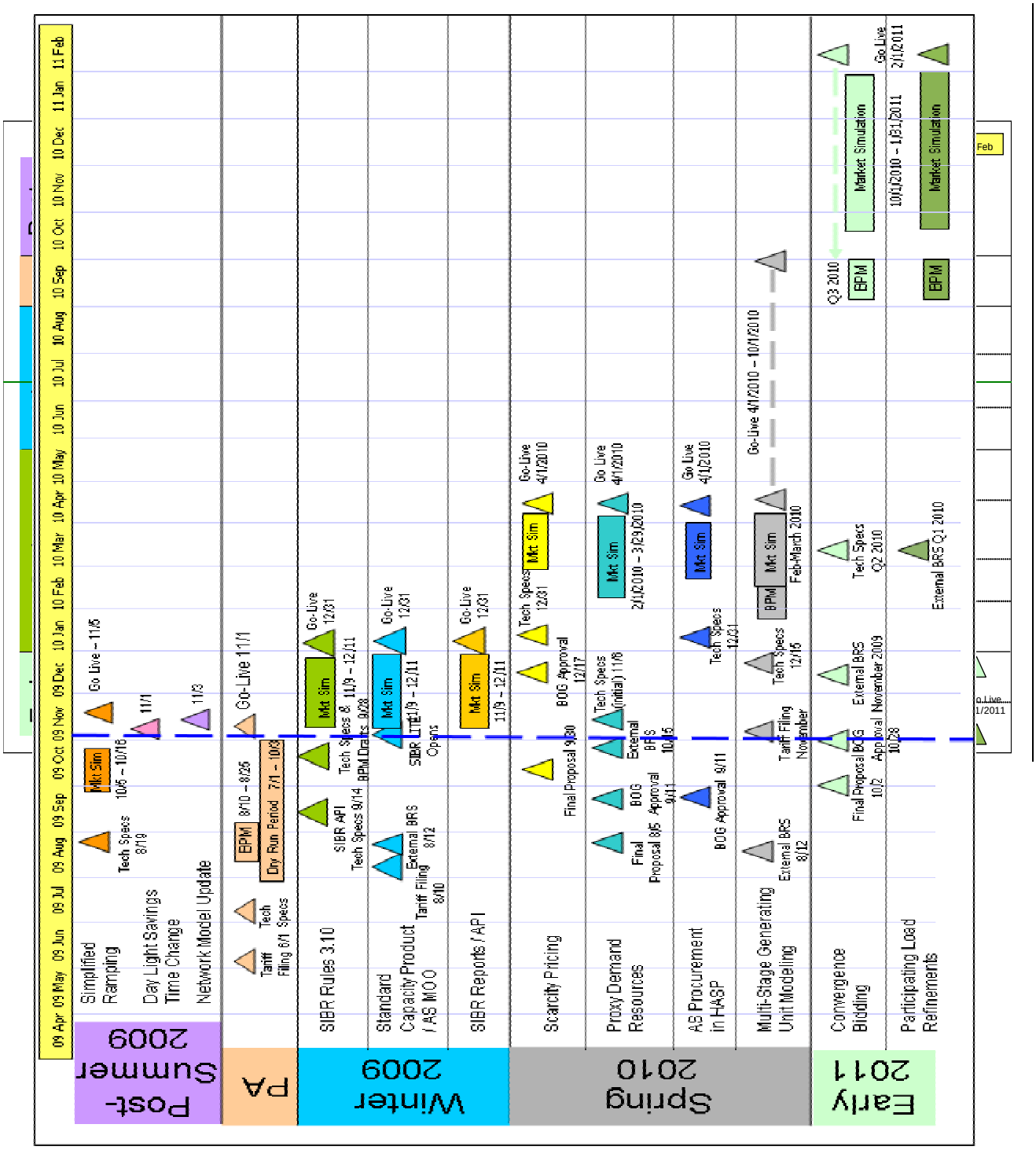
NEXT STEPS

Management provided market participants with the latest updates to the 2009-2011 release plan at an implementation workshop on October 6, 2009. Future release planning workshops will be held regularly with the next one currently planned for November 10, 2009.

As reported at the last Board meeting, Management remains committed to continuously improving the release planning process and will continue to respond to stakeholder comments over the course of this two-year planning horizon and beyond. As further planning and schedule validation occurs, Management plans to share a more detailed, fully transparent consolidated release schedule that sets forth external milestones and dependencies between projects.

Management continues to appreciate the participation of market participants through the implementation workshops and will continue to rely on stakeholder input to guide the market initiatives release plan.

Attachment 1 – Updated Release Plan



Attachment 2 – Critical Path Analysis

Critical Path Analysis

As part of our standard practice, all projects are evaluated for interdependencies on other projects. Additionally, we consider sequencing of test environments and available personnel as part of our planning. Finally, we do a critical path analysis within each project. The following is our assessment of the critical path for projects highlighted in this document.

The following projects are considered independent of each other and have no critical path interaction other than shared resources:

- Simplified ramping
- Payment acceleration
- Scheduling interface and business rules (SIBR) reports and programmatic interfaces
- Multi-stage generator modeling
- Convergence bidding
- Participating load refinements

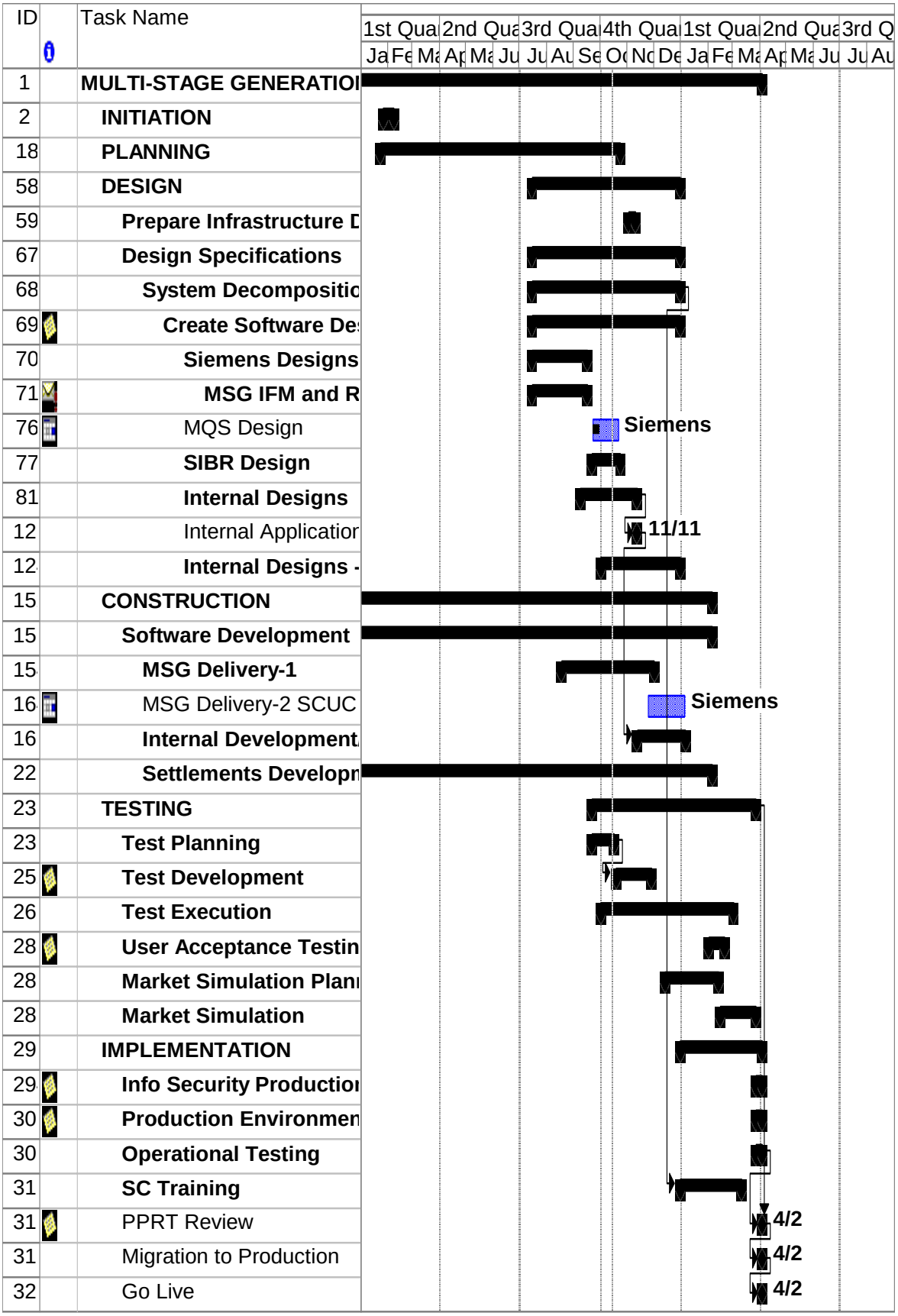
The following projects have limited critical path interaction between them:

- Scarcity pricing, proxy demand resources and procurement of ancillary services in HASP are being developed simultaneously as they impact similar systems. Once the software development and testing is underway, it will require additional effort to release them independently. Management intends to build the ability to enable or disable the functionality to retain delivery options.

The following projects have a critical path dependency between them:

- Standard capacity product and must offer obligation for ancillary services are dependent on the SIBR 3.10 rules and must be released simultaneously.

Critical path is managed within a project as demonstrated by the example on the following page.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1 MULTI-STAGE GENERATIOI
2 INITIATION
18 PLANNING
58 DESIGN
59 Prepare Infrastructure D
67 Design Specifications
68 System Decompositic
69 Create Software De
70 Siemens Designs
71 MSG IFM and R
76 MQS Design
77 SIBR Design
81 Internal Designs
12 Internal Applicatior
12 Internal Designs -
15 CONSTRUCTION
15 Software Development
15 MSG Delivery-1
16 MSG Delivery-2 SCUC
16 Internal Development
22 Settlements Developr
23 TESTING
23 Test Planning
25 Test Development
26 Test Execution
28 User Acceptance Testin
28 Market Simulation Plan
28 Market Simulation
29 IMPLEMENTATION
29 Info Security Productio
30 Production Environmen
30 Operational Testing
31 SC Training
31 PPRT Review
31 Migration to Production
32 Go Live
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