

ATTACHMENT C

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
2.5.6	Inserted space in last sentence	To correct a typographical error.
2.5.14 (l), (n)	Deleted the bid price for Regulation Energy	The price of Energy associated with Ancillary Services capacity is now determined by the single Energy bid curve.
2.5.15 (l), (f)	Same as above	Same as above
2.5.16 (j), (f), (h)	Same as above	Same as above
2.5.17 (i), (f), (h)	Same as above	Same as above
2.15.18	Changed "BEEP Interval Ex Post Price" to Dispatch Interval Ex Post Price	
2.5.22 (b)	Added language regarding the projected Imbalance Energy requirement for the next Dispatch Interval.	Because the RTD Software optimizes over multiple Dispatch Intervals, resources are Dispatched in any Interval based on Imbalance Energy requirements in that interval and projected Imbalance Energy needs for the balance of the current hour and the next hour.
2.5.22 (c)	Added language regarding transmission constraints; struck language referring to separate incremental and decremental Energy Bids	The RTD Software uses a single Energy Bid curve rather than separate incremental and decremental Energy bid curves. The RTD Software also accounts for resource constraints when Dispatching resources.
2.5.22 (d)	Struck language referring to merit order dispatch and added language referring to minimizing the cost of Imbalance Energy subject to constraints	The RTD Software does not simply Dispatch resources in merit order, but minimizes the Imbalance Energy cost by considering resource and network constraints. As an example, the RTD Software may not dispatch the next resource in simple merit order if that resource has a significant minimum run time and the RTD software projects a short-term need for the Energy.
2.5.22 (f)	Changed "BEEP" to "Dispatch"	
2.5.22.3	Capitalized "dispatch" to mean defined term "Dispatch"	

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
2.5.22.3.1	Added reference to Dispatch Protocol Section 8.6.2	Dispatch Protocol Section 8.6.2 now describes how Energy Bids are to be Dispatched.
2.5.22.3.2	Deleted language referring to merit order dispatch	The RTD Software no longer performs simple merit order dispatch, but Dispatches based on multi-interval optimization in which a resource with a higher bid price may be Dispatched before a resource with a lower bid price if the lower priced resource has a constraint that would increase total cost.
2.5.22.4.1	Deleted language related to bids from System Resources	Bidding rules for System Resources are now described in Section 11.2.4.1.2 (b).
2.5.22.4.2	Deleted description of Supplemental Energy Bid information	Language was redundant; Supplemental Energy Bids are already described in Schedules and Bids Protocol Section 6.1.
2.5.22.5	Section deleted	Information already contained in Schedules and Bids Protocol Section 6.1
2.5.22.6	Changed "exceed" to "deviate from"; added language regarding projected Imbalance Energy requirements; described multi-interval optimization	Output deviation could be above or below their operating point. RTD Software will also project Dispatch in later intervals. See Page 6 of the Transmittal Letter for information on the multi-interval optimization.
2.5.22.6.1	Added new section regarding how the RTD Software will account for resource operating constraints	See Pages 8-10 of the Transmittal Letter for a description of the operating constraints that will be considered.
2.5.22.6.2	Added new section on how the RTD Software will account for transmission constraints	See Transmittal Letter at Page 6.
2.5.22.6.3	Added new section to describe how the RTD Software will issue Dispatch instructions for resources ramping from one hourly scheduled operating level to the next hourly scheduled operating level if the resource has not submitted real-time Energy Bids	See Transmittal Letter at Pages 8-10.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
2.5.22.6.4	Added new section to describe how the RTD Software will issue Dispatch instructions for resources ramping from one hourly scheduled operating level to the next hourly scheduled operating level if the resource has submitted <u>real-time Energy Bids</u>	See Transmittal Letter at Pages 8-10.
2.5.22.7	Struck the words "separately for each zone"	Assume there is Congestion from Zone A to Zone B. The RTD Software will procure Imbalance Energy in Zone B to meet a imbalance requirement in Zone A if that results in lower cost than meeting the Imbalance Energy requirement in Zone A.
2.5.22.9	Describes how the ISO will Dispatch resources to replenish depleted Operating Reserve	If the ISO must deploy Energy from Operating Reserve, the ISO will Dispatch additional Imbalance Energy from other resources to restore the unloaded reserve capacity as needed. Additionally, since there is no real-time market for Ancillary Services, the ISO will procure Ancillary Service capacity from RMR Units if needed in real-time.
2.5.22.10	Capitalized "instruction" to refer to defined term; added reference to Dispatch Protocol Section 4.4	
2.5.22.11 (a)	Describes how Scheduling Coordinators notify the ISO of a de-rate or Outage (through the SLIC interface, not through the ADS system)	See Transmittal Letter at Pages 14-15.
2.5.22.11 (b)	Changed "BEEP" to "Dispatch"; added cross-reference to Section 2.5.23.2.1.2	
2.5.22.11 (c)	Added item (c)	
2.5.23.1	Changed "BEEP Interval" to "Dispatch Interval", and changed "BEEP Software" to "RTD Software"	To correct a typographical error.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
2.5.23.2.1.2	Added new section to set forth the eligibility to set the Market Clearing Price	See Transmittal Letter at Pages 22-24.
2.5.23.2.2	Changes to how the Ex Post Price is calculated	See Transmittal Letter at Pages 25-27.
2.5.23.2.3	Added new section to set forth how deviations for Participating Intermittent Resource portfolios are to be settled	Uninstructed deviations from Participating Intermittent Resources will continue to be treated on a monthly basis as approved by the Commission on March 27, 2002 in Amendment No. 42. See <i>California Independent System Operator Corporation</i> , 98 FERC ¶ 61,327 (2002).
2.5.26.2	Changed "BEEP Interval" to "Dispatch Interval"	
2.5.26.2.1	Changed "BEEP Interval" to "Dispatch Interval"	
2.5.26.2.2	Struck redundant language; changed "BEEP Interval" to "Dispatch Interval"	
2.5.26.2.3	Added language to indicate No Pay adjustment for difference between ramp rate used to sell Ancillary Services and operational ramp rate	See Transmittal Letter at Pages 6 and 17-18.
2.5.26.2.4	Changed "BEEP Interval" to "Dispatch Interval"; deleted language that referred to language in Section 11.2.4.1 that was deleted in Amendment No. 29	Section 2.5.26.2.4 inadvertently still refers to Section 11.2.4.1 to define the term <i>UnavailAncServ/MW_{xt}</i> , even though the language in Section 11.2.4.1 defining this term was deleted as part of Amendment No. 29 (ER00-2381) filed by the ISO on May 29, 2000 and approved the Commission with modifications on June 29, 2000. See <i>California Independent System Operator Corporation</i> , 91 FERC ¶ 61,324 (2000).
2.5.26.2.5	Re-ordered priority for No-Pay Adjustment	If a resource with a No-Pay adjustment has provided different types of reserve, the ISO will rescind payments starting with the lowest quality service (Replacement Reserve) and ending

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
2.5.26.2.6	Changed "BEEP Interval" to "Dispatch Interval"	with the highest quality service (Spinning Reserve), consistent with the way Ancillary Services capacity is treated in the Single Energy Bid Curve. See Transmittal Letter at Pages 6 and 17-18.
2.5.26.5	Capitalized "instruction" to refer to defined term "Dispatch Interval"	
2.5.26.6	Capitalized "instruction" to refer to defined term "Dispatch Interval"	
2.5.27.1	Changed "BEEP Interval" to "Dispatch Interval"	
2.5.27.2	Changed "BEEP Interval" to "Dispatch Interval"	
2.5.27.3	Changed "BEEP Interval" to "Dispatch Interval"	
2.5.27.4	Changed "BEEP Interval" to "Dispatch Interval"	
5.2.7.2	Corrected typographical errors: spelling of "resolution" and missing hyphen in "non-payments"	
5.11.5	Changed "BEEP Interval" to "Dispatch Interval"; added reference to Section 11.2	
5.11.6.1.1	Added language to describe how ISO will instruct and settle Minimum Load Energy.	See Transmittal Letter at Pages 30-31.
5.11.6.1.2	Added language to clarify distinction between unit minimum load (Pmin) and dispatchable minimum load	See Transmittal Letter at Page 30-31.
5.13.1	Added language to provide for operational	See Transmittal Letter at Pages 9-10.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
7.2.1.5	<p>ramp rate function; added language to indicate Forbidden Operating Regions cannot span bid segments</p> <p>Revised wording</p>	<p>Revised wording to reflect 1) that the ISO no longer performs strict merit order Dispatch, but will Dispatch resources to achieve least cost across the time horizon (<i>i.e.</i>, not Dispatch a lower priced-resource in the next Dispatch Interval if that resource has a minimum run-time constraint that would case overall costs to increase), respect unit operating constraints and transmission constraints, and 2) that a single Energy bid curve has replaced separate incremental and decremental bids.</p>
7.2.4.1.4	<p>Deleted use of Adjustment Bids in real-time to manage Congestion</p>	<p>See Transmittal Letter at Pages 21-22.</p>
7.4.1	<p>Added language to set forth new process for self-providing transmission losses</p>	<p>See Transmittal Letter at Pages 12-13.</p>
7.4.1.1	<p>Added new section to indicate how transmission losses will be settled</p>	<p>See Transmittal Letter at Pages 12-13.</p>
11.2.4	<p>Changed "BEEP Interval" to "Settlement Interval"</p>	
11.2.4.1	<p>Added language to indicate to what Uninstructed Imbalance Energy applies; changed "Settlement Period" to Settlement Interval"; changed "BEEP Interval" to "Settlement Interval", and added a sentence indicating how uninstructed Imbalance Energy will be settled.</p>	<p>See Transmittal Letter at Page 25-28.</p>
11.2.4.1.1	<p>Changed "BEEP Interval" to "Settlement Interval"</p>	

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
11.2.4.1.1.1	Added new section to set forth bid cost recovery for Generating Units, System Units and Curtailable Demand	See Transmittal Letter at Pages 27-29.
11.2.4.1.1.2	Added new section to set forth bid cost recovery for System Resources	See Transmittal Letter at Page 31.
11.2.4.1.2 (a)	Changed "BEEP Interval" to "Settlement Interval"; added language to exempt positive imbalance deviations from Uninstructed Deviation Penalties during a System Emergency	See Transmittal Letter at Page 18.
11.2.4.1.2 (b)	Added language to set forth rules for application of UDP to System Resources	See Transmittal Letter at Page 18-19. The ISO will exempt System Resources from UDP if their uninstructed deviation was due to the forced outage of the transmission over which the System Resource was providing Energy to the ISO Control Area.
11.2.4.1.2 (c)	Added language to exempt Curtailable Demand from UDP	See Transmittal Letter at Page 18.
11.2.4.1.2 (d)	Struck the blanket exemption from UDP for constrained resources	The ISO will be accounting for these constraints when issuing Dispatch Instructions.
11.2.4.1.2 (e)	Added language to exempt Participating Intermittent Resources from UDP.	Uninstructed deviations from Participating Intermittent Resources will continue to be treated as approved by the Commission on March 27, 2002 in Amendment No. 42. See <i>California Independent System Operator Corporation</i> , 98 FERC ¶ 61,327 (2002).
11.2.4.1.2. (f)	Added language to exempt Metered Subsystems from UDP	
11.2.4.1.2 (g)	Added language to exempt units providing Regulation from UDP within their regulating range	See Transmittal Letter at Page 17.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
11.2.4.1.2 (h)	Added language to clarify aggregations to net out UDP	See Transmittal Letter at Pages 16-17.
11.2.4.1.2 (i)	Struck the section	The content is captured in the new defined term "Tolerance Band".
11.2.4.1.2 (j)	Struck the section	The content is captured in the new defined term "Tolerance Band".
11.2.4.1.2 (k)	Changed "BEEP Interval" to "Settlement Interval"	
11.2.4.1.2 (l)	Changed "BEEP Interval Ex Post Price" to "Zonal Settlement Interval Ex Post Price"; used defined term "Tolerance Band"	
11.2.4.1.2 (m)	Changed "BEEP Interval Ex Post Price" to "Zonal Settlement Interval Ex Post Price"; used defined term "Tolerance Band"	
11.2.4.1.2. (p)	Deleted references to Curtailable Demand and dispatchable Interconnection Resources	UDP does not apply to Curtailable Demand. UDP does apply to dispatchable System Resources. As described in 11.2.4.1.2 (b), the ISO will exempt hourly pre-dispatched System Resources from UDP if their uninstructed deviation was due to the forced outage of the transmission over which the System Resource was providing Energy to the ISO Control Area.
11.2.4.1.2 (q)	Clarified the things that will be exempt from UDP if adjusted in accordance with the terms of Existing Transmission Contracts	
11.2.4.2.1	Changed "Interconnection Resource" to "System Resource"	Proper defined term is "System Resource"
11.2.4.2.1 (a)	Changed "BEEP Interval" to "Settlement Interval"	
11.2.4.2.1 (b)	Changed "BEEP Interval" to "Settlement Interval"	

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
11.2.4.2.2	Interval" Added a new Section to refer to Tariff sections that set forth how the ISO will settle 1) costs at or below the MCP, and 2) costs above the MCP.	Clarification
11.2.4.2.2.1	Added language to clarify how costs above the Maximum Bid Level are settled; changed "BEEP Interval" to "Settlement Interval"	Clarification
11.2.4.2.2.2	Added new Section to indicate that costs above the MCP will be allocated <i>pro rata</i> to Scheduling Coordinators	See Transmittal Letter at Pages 27-29.
11.2.4.3	Changed "BEEP Interval" to "Settlement Interval"	
11.2.4.5.1	Added Transmission Losses to Section on how uninstructed deviations from Participating Intermittent Resources are settled	Intermittent Resources cannot adjust their output to self-provide transmission losses. Since the ISO has now created a separate accounting component for transmission losses, the ISO is allowing Participating Intermittent Resources to include this component in the monthly deviation account. This treats transmission losses the same way their uninstructed deviations are treated.
11.2.4.5.3	Changed "BEEP Interval" to "Settlement Interval"	
23.16.3	Added language to clarify that MSS may also elect to recover minimum load costs	See Section 23.16.5.
23.16.5	Added a new section to clarify that MSSs that elect to follow their own Load are not eligible for bid cost recovery and are allocated bid cost recovery charges on a net Demand basis, while MSS that do not follow	An MSS that follows its own load is not relying on the ISO's imbalance energy market to keep its system in balance. Bid cost recovery is intended to make a unit whole to costs incurred by following ISO Dispatch Instructions. Because MSS units following MSS load are neither issued nor required

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
	their own load are eligible for bid cost recovery and are assessed bid cost recovery charges on a gross Demand basis	to follow ISO Dispatch Instructions, such units are not eligible for bid cost recovery. Assessing bid cost recovery charges on a net basis ("net" being the amount of Energy the MSS exchanges with the ISO) is consistent with how other costs are allocated to an MSS.
Master Definitions Supplement	Added the defined term "Automatic Mitigation Procedures"	
	Deleted the term "BEEP Interval"	To be replaced with the term "Dispatch Interval"
	Deleted the term "BEEP Interval Ex Post Price"	To be replaced with the term "Dispatch Interval Ex Post Price"
	Deleted the term "Effective Price"	The Effective Price, which was determined from separate incremental and decremental bid stacks, is eliminated by the move to a single energy bid curve and through clearing the Price Overlap by dispatching overlapping bids.
	Modified "Ex Post Price"	Includes the new prices. See Transmittal Letter at Pages 26-28.
	Added "Forbidden Operating Region"	See Transmittal Letter at Pages 5-6, 10.
	Modified Hourly Ex Post Price	Changed "BEEP" to "Dispatch"
	Added the defined term "Hourly Pre-Dispatch."	
	Modified "Net Negative Deviation"	Changed "BEEP" to "Dispatch"
	Modified "Outage"	An Outage can be a partial reduction in capacity.
	Modified "Price Overlap"	Changed "BEEP" to "Dispatch"
	Added the defined term "Resource-Specific Settlement Interval Ex Post Price"	See Transmittal Letter at Pages 27-29.
	Added the defined term "Settlement Interval"	
	Added the defined term "Scheduling and	See Transmittal Letter at Page 10.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
	Logging for ISO of California (SLIC)"	
	Added the term "Standard Ramp"	See Transmittal Letter at Pages 8-9 and 30-31.
	Modified the term "Start-Up Fuel Costs"	Corrected the spelling of the word "synchronized"
	Added the defined term "Tolerance Band"	As previously approved by the Commission, the Tolerance Band is the greater of five MW or three percent of the unit's maximum capacity.
	Added the defined term "Zonal Settlement Interval Ex Post Price"	See Transmittal Letter at Pages 25-27.
Dispatch Protocol (DP)		
Definitions		
DP 3.2	Deleted the term "BEEP" Changed "45" to "60"	The BEEP system is being replaced by the RTD Software. The Commission approved moving the deadline for submitting Supplemental Energy Bids in their October 25, 2002 Order on Proposed Tariff Revisions and Compliance Filing, 101 FERC ¶ 61,084. This change was overlooked in prior filings.
DP 3.4.3	Added the words "and [E]lectronic"	The ISO now issues real-time Dispatch Instructions through its Automated Dispatch System [ADS].
DP 4.4	Struck language deeming Dispatch Instructions delivered	Language regarding eligibility to set the price or how Dispatch Instructions will be settled has been removed from the Dispatch Protocol and placed in more appropriate locations in the Tariff.
DP 7.3	Added new language to indicate that System Resources may identify themselves as "hourly dispatch" only	While most System Resources participate through standard west-wide interconnection scheduling protocols, some System Resources have indicated a willingness to be Dispatched more frequently than once an hour. A System Resource that is Dispatchable in real-time like a Generating Unit will be treated as a Generating Unit (i.e. able to set the MCP), while a System Resource that is not Dispatchable in real-time will be

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
DP 8.1.1	Added the words " using RTD Software"	pre-dispatched before the hour for the hour, cannot set the MCP, but will be provided bid cost recovery. See Transmittal Letter at Page 31.
DP 8.1.2	Deleted reference to BEEP	The RTD Software will replace the current BEEP system. See Transmittal Letter at Page 5.
DP 8.2	Deleted language related to using the BEEP merit order stack in real time to manage Inter-Zonal Congestion	BEEP is being replaced by the RTD Software. BEEP is being replaced by the RTD Software. The process the RTD Software will use to manage Inter-Zonal Congestion is described in DP 8.3.
DP 8.3.1	Added the term "RTD Software" and language indicating how the RTD Software will manage Inter-Zonal Congestion in real-time	
DP 8.3.3	Modified language to eliminate the phrase "merit order stack"	The RTD Software does not merely Dispatch resources from a merit order stack, but considers other factors such as resource constraints.
DP 8.6.2	Various changes	The BEEP merit order stack has been eliminated.
DP 8.6.3 (b)	Changed "BEEP" to "Dispatch"	
DP 8.6.3 (c)	Changed "BEEP" to "Dispatch"	
DP 8.6.3 (d)	Eliminated reference to "BEEP"	
DP 8.6.3 (e)	Added "or to resolve Inter-Zonal Congestion"	
DP 8.6.3 (f)	Modified the language indicating that bids Dispatched in one interval may cause the resource to produce or consume Imbalance Energy in a later interval.	The ISO will not Dispatch a resource if doing so would create or exacerbate Inter-Zonal Congestion. See Transmittal Letter at Page 28.
DP 8.6.3 (h)	Deleted this section	The single Energy bid curve has replaced the use of separate incremental and decremental bids.
DP 8.6.3 (i)	Added "operational" before "ramp rate";	

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
DP 8.6.3 (j)	Indicates how Dispatchable (not hourly) System Resources will be Dispatched and settled	Dispatchable System Resources will be settled like Generating Units.
DP 8.7.2 (a) (iv)	Changed "BEEP Software" to "RTD Software"	
DP 8.7.2 (b) (iii)	Changed "BEEP Software" to "RTD Software"	
DP 8.7.3 (d)	Changed "BEEP Software" to "RTD Software"	
DP 8.7.4 (d)	Changed "BEEP Software" to "RTD Software"	
DP 8.7.5 (d)	Deleted language referring to BEEP merit order stack	BEEP merit order stack has been eliminated
DP 9.3 (b) (ii)	Added "provision of imbalance Energy"	Correcting an oversight in existing Tariff language; Supplemental Energy Bids are primarily used for meeting Imbalance Energy Requirements
DP 9.4.1 (c)	Added language that Generators must meet the operational ramp rate submitted to the ISO in the Day-Ahead market	
DP 9.4.1 (e)	Added "start-up"	
DP 9.5.1 (b)	Added language to indicate that units that fail to comply with Dispatch Instructions cannot set the market clearing price	See Transmittal Letter at Pages 24-25.
DP 9.5.2	Added "the ISO"	Units in the ISO Control Area that fail to perform have as much, and usually even more, effect on ISO operations as units outside the ISO Control Area that fail to perform.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
<p>Various sections, including 4.3 (c); 6.9.2 (b); 8.1.1; 8.6.1; 8.6.3 (a), (c), (d), (j), (i) and (k); 8.7.1 (b); 8.7.2 (a)(ii), (iii) and (iv); 8.7.2 (b) (ii), (iii) and (iv); 8.7.3 (b), (c) and (d); 8.7.4 (b); 8.7.6 (b); 9.1.1 (f); 9.3 (c) (i), (ii) and (iii); 9.5.1; and 11</p>	<p>Capitalized "dispatch" or "dispatched" to be the defined term "Dispatch" or "Dispatched"</p>	
<p>Market Monitoring and Information Protocol Appendix A</p>		
<p>MMIP A 2.1</p>	<p>Changed "BEEP Interval" to "Dispatch Interval"</p>	
<p>MMIP A 3.1.1</p>	<p>Changed "BEEP Software" to "RTD Software";</p>	
<p>MMIP A 3.2.1</p>	<p>Changed "BEEP Software" to "RTD"</p>	

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
	Software”;	
MMIP 3.2.2.2	Changed “BEEP Interval” to “Dispatch Interval”	
MMIP A 4.2.2 (e)	Changed “BEEP Software” to “RTD Software”; Changed “BEEP Interval” to “Dispatch Interval”	
Schedules and Bids Protocol		
SBP 2.1.1 (g)	Added the transmission loss self-provision flag	Scheduling Coordinators can elect to self-provide the transmission losses associated with their Final Hour-Ahead Schedule. See Transmittal Letter Pages 12-13.
SBP 2.1.1 (h)	Added the words “in the Day-Ahead and Hour-Ahead market”.	The ISO proposes to eliminate the use of Adjustment Bids to manage all real-time Congestion. See Transmittal letter at Pages 21-22.
SBP 5.1	Deleted language requiring SCs to submit separate energy bids along with Ancillary Services capacity bids and clarifying how the operational ramp rate and the Ancillary Service procurement ramp rate are used differently. SCs are required to submit an energy bid for awarded Ancillary Services capacity.	See Transmittal Letter Pages 7-8 and 11.
SBP 5.1.2.2 (n)	Eliminates the requirement to submit Energy bids for Spinning Reserve capacity	SCs are required to submit an energy bid for awarded Ancillary Services capacity.
SBP 5.1.3.3 (o)	Eliminates the requirement to submit Energy bids for Nonspinning Reserve capacity	SCs are required to submit an energy bid for awarded Ancillary Services capacity.
SBP 5.1.4.3	Eliminates the requirement to submit Energy	SCs are required to submit an energy bid for awarded

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
SBP 6.1.1	Provides for Nonspinning Reserve capacity bids for the inclusion of start-up time and costs and minimum load cost in a bid	Ancillary Services capacity.
SBP 6.1.2	Provides for the inclusion of shut-down time and cost and minimum curtailed load cost in a demand bid	
SBP 6.1.3	Added "operational"	
SBP 6.2	Replaces "preferred operating point" with "Hour-Ahead Final Schedule"; clarifies that the multi-step operational ramp rate will be used in accordance with SBP Section 6.5.	
SBP 6.5	Added new section specifying how operational ramp rates are submitted to the ISO	See Transmittal Letter at Pages 8-10.
SBP 6.6	Added new section specifying how Start-Up and Shut-Down times are to be submitted and validated	
SBP 6.7	Added new section specifying how Minimum Load Costs are to be submitted and validated	
Settlements and Billing Protocol Appendix B	All of the changes to SABP Appendix B incorporate changes made in Amendment No. 50	
SABP B 2.1	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22
SABP B 2.1.1	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.
SABP B 2.2	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.
SABP B 2.2.1	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
SABP B 3.1	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.
SABP B 3.2	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.
SABP B 3.3	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.
SABP B 3.5	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.
SABP B 3.7	Struck references to Adjustment Bids.	See Transmittal Letter at Pages 21-22.
SABP B 3.10.2	Struck section.	This section is no longer used.
Settlements and Billing Protocol Appendix C		
SABP C 2.2.5	Struck reference to how ISO will settle Regulation Energy	The struck language is unnecessary; the ISO does not track incremental and decremental Energy from units providing Regulation.
Settlements and Billing Protocol Appendix D		
SABP D 2.1.1	Added language describing new two-tiered imbalance energy calculation	See Transmittal Letter at Pages 25-27.
SABP D 2.1.2	Added language describing how Ramping Energy will be determined	See Transmittal Letter at Pages 8-9, 29-30.
SABP D 2.2	Changed "BEEP Interval" to Settlement Interval"; indicates UFE will be charged the Zonal Ex Post Price	
SABP D 2.3	Revised how Hourly Ex Post Price is determined	See Transmittal Letter at Pages 25-27.
SABP D 2.4	Added new section on calculation of	See Transmittal Letter at Pages 25-27.

ATTACHMENT C
MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
	Resource-Specific Settlement Interval Ex Post Price	
SABP D 2.5	Added new section on Zonal Settlement Interval Ex Post Price	See Transmittal Letter at Pages 25-27.
SABP D 2.6	Created a new section on how the ISO will determine unrecovered costs for Generators.	See Transmittal Letter at Pages 27-29.
SABP D 2.6.1	Created a new section on how the ISO will check resource performance using the Tolerance Band.	See Transmittal Letter at Pages 24-25.
SABP D 2.6.2	Created a new section on how the ISO will allocate unrecovered costs to Scheduling Coordinators.	See Transmittal Letter at Pages 27-29.
SABP D 2.6.3	Created a new section on how the ISO will determine unrecovered costs for System Resources.	See Transmittal Letter at Page 31.
SABP D 2.6.4	Created a new section on how the ISO will allocate unrecovered costs for System Resources to Scheduling Coordinators.	See Transmittal Letter at Pages 27-29.
SABP D 2.6.5	Created a new section on how the ISO will settle Instructed Imbalance Energy costs above the Maximum Bid Level.	See Transmittal Letter at Pages 27-29.
SABP D 2.7	Created a new section on how the ISO will determine the transmission loss obligation.	See Transmittal Letter at Pages 12-13.
SABP D 2.8	Created a new section on how the ISO will determine Uninstructed Deviation Penalties.	See Transmittal Letter at Pages 16-20.
SABP D 3	Struck formulae terms no longer needed – all except for 3.7, 3.12, 3.13, 3.14, 3.15, 3.19, 3.23, 3.25, 3.37	
SABP D 3.7	Replaced "BEEP Interval" with "Settlement	

ATTACHMENT C
 MAP TO PROPOSED TARIFF CHANGES

Section	Change	Reason
SABP D 3.15	Interval". Replaced "BEEP Interval" with "Settlement Interval".	
SABP D 3.49 – 3.96	Created new terms for the Unrecovered Cost for Generators (2.6), Tolerance Band and Performance Check (2.6.1), Unrecovered Cost Neutrality Allocation (2.6.2), System Resource Unrecovered Cost (2.6.3), Unrecovered Cost Payments for Hourly Pre-Dispatched System Resources (2.6.4), Excess Cost Payments for Instructed Energy above the Maximum Bid Level (2.6.5), Transmission Loss Obligation (2.7) and Uninstructed Deviation Penalty Charge (2.8) formulas.	See references above.

ATTACHMENT D

Appendix D – Stakeholder Participation in Phase 1-B Items

Joint Application Development (“JAD”) Stakeholder Meetings

September 12, 2002 – Folsom, California

September 19, 2002 – Folsom, California

September 26, 2002 – Folsom, California

JAD Stakeholder Conference Calls

Date	Participants
10/31/02	NA
11/8/02	NA
11/15/02	NA
3/25/03	24
4/8/03	36
4/22/03	32
5/20/03	NA
6/3/03	26
6/17/03	33

Phase 1-B discussion papers and other information posted at
<http://www.caiso.com/docs/2002/09/16/2002091616144615601.html>

Other postings:

Five-Minute Dispatch examples:

<http://www.caiso.com/docs/2002/11/14/200211141124435657.pdf>

Phase 1B Settlements calculations posted on February 19, 2003:

<http://www.caiso.com/docs/2003/02/13/2003021316401625697.html>


Draft SI Template and Validation Rule Changes posted on March 6, 2003:

<http://www.caiso.com/docs/2003/02/13/2003021316401625697.html>

SI Template and Validation Rule Changes posted on May 21, 2003:

<http://www.caiso.com/docs/2003/02/13/2003021316401625697.html>

ATTACHMENT E

 CALIFORNIA ISO <small>California Independent System Operator</small>		Procedure No.	
		Version No.	0.1
	DRAFT - UDP Aggregation Approval Process for Scheduling Coordinators	Version Date	6/25/03
		Effective Date	

Overview

In conjunction with proposed tariff changes associated with Phase 1B of the California ISO MD02 Market Redesign, Scheduling Coordinators (SC) may submit requests to the ISO to aggregate resources for the purpose of calculating Uninstructed Deviation Penalties (UDP).

If the ISO determines that the proposed Aggregation meets ISO criteria and is deemed unlikely to adversely impact grid reliability, the Aggregation will be approved. If the ISO determines that the proposed UDP Aggregation is likely to adversely impact grid reliability or the reliability of transmission systems or equipment of intermediate entities between the relevant resources and the ISO grid, the Request will be denied.

An approved Aggregation shall be considered active until otherwise requested by the SC or determined by the ISO. The ISO may temporarily restrict the schedules of units in approved Aggregations based upon temporary changes in system conditions, operating constraints, and other relevant factors as needed to ensure ISO grid reliability. The ISO may permanently suspend previously granted Aggregations based upon permanent or long-term changes in the ISO grid or other relevant factors that alter the effect of the Aggregation upon the ISO grid and/or transmission systems or equipment of intermediate entities.

The units in an approved UDP Aggregation are obligated to follow their schedules at all times.


Purpose

This procedure outlines for SC's the process for requesting a UDP Aggregation and provides the criteria by which the ISO evaluates the request. This document is located on the California ISO website at


Requirements

UDP Aggregations are classified as either Basic or Custom. **Basic UDP Aggregations** are generally composed of Generating Units connected at the same substation and stepping up to the same voltage level bus bar. **Custom UDP Aggregations** are composed of Generating Units connected at different substations and/or different voltage levels, particularly where the Generating Units to be aggregated are separated by ISO Controlled Grid facilities. Typical examples of proposed "Custom" UDP Aggregations could include hydro units operating on a common watershed (but having multiple different interconnection points), or geothermal units fed from a common geothermal steam supply.

When evaluating a Request for UDP Aggregation, ISO Operations will apply the following minimum considerations and criteria:

 CALIFORNIA ISO <small>California Independent System Operator</small>		Procedure No.	
		Version No.	0.1
DRAFT - UDP Aggregation Approval Process for Scheduling Coordinators		Version Date	6/25/03
		Effective Date	

1. All resources involved in a Request for UDP Aggregation must be Participating Generators classified under the same SCID and wholly contained within the ISO Control Area. There is no set limit to the number of resources that an SC can aggregate.
2. The Request for UDP Aggregation must include the following documentation:
 - a. A completed UDP Aggregation Request form that includes:
 - i. Resource ID, Name and description of each Participating Generator Unit proposed to be included in the UDP Aggregation,
 - ii. Identification of the proposed aggregation as either Basic or Custom,
 - iii. Identification of the Utility Service Area the proposed aggregation is located in,
 - iv. A proposed effective date the SC would like the aggregation to begin, and
 - v. The day's date and a signature of an authorized SC representative.
 - b. A simplified electrical one-line diagram that illustrates each generating unit and their connection to each other and to the ISO Control Area Grid (please see Attachment A for sample).
 - c. For Custom Aggregations a detailed description of the resources' physical operating interrelationships (please see Attachment A for sample).
3. Only Generating Units are allowed to participate in UDP Aggregations. As a general rule, a pump-generating unit (or a Physical Scheduling Plant [PSP] containing a pump-generating unit) cannot be part of a UDP Aggregation. However, it is possible that generating units could form a UDP Aggregation comprised entirely of pump-generating units whose operation is uniform, that is, units all operating in either generation mode or all in pump mode, but never mixed.
4. A UDP Aggregation cannot include Load. Participating Load is exempt from the UDP penalties due to the fact that Participating Load only participates when it is bid.
5. A UDP Aggregation (both Basic and Custom) may include Condition 1 Reliability Must Run (RMR) units. These units often participate in the energy market, and as such should be interchangeable with other market units.
6. A UDP Aggregation (both Basic and Custom) cannot include Condition 2 Reliability Must Run (RMR) units. These units do not freely participate in the energy market, and all revenues, costs, and penalties for RMR Condition 2 units are passed through to the transmission owner. Also, Condition 2 units already feature RMR contract provisions for requesting unit substitution(s). As such, Condition 2 RMR units should not be associated with Uninstructed Deviation Penalties, or UDP aggregations.
7. UDP Aggregations cannot include intermittent resources (wind or solar generation). These units already have provisions for monthly averaging of uninstructed deviations.
8. Resources within a UDP Aggregation must have ISO direct telemetry and must be fully compliant with the ISO's direct telemetry standards.

 CALIFORNIA ISO <small>California Independent System Operator</small>		Procedure No.	
		Version No.	0.1
DRAFT - UDP Aggregation Approval Process for Scheduling Coordinators		Version Date	6/25/03
		Effective Date	

9. UDP Aggregations cannot include Generating units less than 5 MW, since these are already indirectly exempt from uninstructed deviation penalties due to the 5 MW tolerance band.
10. UDP Aggregations cannot span active or inactive congestion zones (a list of inactive zones is located on the ISO website): For example, units within the NP15 zone cannot be part of the same Aggregation as units in the SP15 zone. Similarly, units within the San Francisco zone cannot be aggregated with units elsewhere within NP15.
11. Custom UDP Aggregations involving units not directly connecting to the ISO Controlled Grid are required at all times to recognize the transfer limits and status of the intermediate local facilities (owned by UDC, PTO, etc.).
12. Units within a UDP Aggregation must exhibit generally the same effectiveness factors (factors within +/-10%) for managing inter- and intra-zonal constraints, both under "normal/all elements in service" conditions, as well as during most local transmission outages. For example, if a unit is 20% effective at managing a constraint (10 MW change in generation equals 2 MW change in flow on the constraint), then other units within the Aggregation should exhibit effectiveness factors from 18%-22% (10% * 20% = +/-2%). Note: units within "Basic" Aggregations will almost always exhibit identical effectiveness factors.


Process for Submitting a Request

Requests for UDP Aggregations follow the process flow outlined below.

- 1) The SC submits one Request for each proposed UDP Aggregation via email to their representative in Client Relations. The UDP Aggregation Request form can be found at www.caiso.com.
- 2) The SC attaches all required documentation as outlined in the Requirements section above. Accompanying documentation must be in Microsoft Word, Microsoft Excel, AutoCAD or other standard accessible electronic formats (e.g., ASCII text, Acrobat, JPEG, GIF, BMP, etc.).
- 3) Client Relations will forward the Request to an ISO review team. The review team will have (15) business days after they have received it to review the proposed UDP Aggregation according to the requirements and criteria outlined above and either approve or deny the Request or to request more information from the SC. Review of Custom UDP Aggregation requests may take longer in some cases depending on the complexity of the proposed aggregation.

Approved Requests

- 1) Upon **approval** of a Request, the review team will create a new non-schedulable, unique Resource ID, called hereafter UDP Aggregate ID, to represent the approved UDP Aggregation. The UDP Aggregate ID will reflect the identity or location of the units and the fact that they are part of a UDP Aggregation.

 CALIFORNIA ISO <small>California Independent System Operator</small>		Procedure No.	
		Version No.	0.1
DRAFT - UDP Aggregation Approval Process for Scheduling Coordinators		Version Date	6/25/03
		Effective Date	

- 2) Client Relations will notify the SC that the Request for UDP Aggregation has been approved and forward to them the new UDP Aggregate ID for their records.
- 3) Client Relations will request from the SC an email confirming the start date for the aggregation (Start date must be first day of a month that falls after the approval date).
- 4) Upon receipt of the start date confirmation from the SC, the ISO will enter the new UDP Aggregation into the Master File.
- 5) Upon receipt of notification that the Master File has been updated, Client Relations will notify the SC that the process has been completed.

Denied Requests

- 1) Upon **denial** of a Request, the review team will report its findings to Client Relations. The review team may suggest alternative UDP Aggregations that it deems feasible and unlikely to adversely impact grid reliability if it has adequate time and documentation.
- 2) Client Relations will notify the SC that their Request has been denied and forward them the review team's findings.


Should the SC decide to submit at a later date a Request for UDP Aggregation involving any of the Generating Units in a previously denied UDP Aggregation Request, the Request will be treated as a new Request and follow the process flow and timelines as described above.

Modifications to Existing UDP Aggregations

SC-Initiated Modification

The SC can request a modification to an existing UDP Aggregation up to once per month per aggregation. A request to modify an aggregation will follow the same procedures as a new request. Upon receipt of a request to modify a UDP Aggregation, the review team will approve or deny the Request. A Request for Modification to an existing UDP Aggregation will generally be approved if the ISO deems it unlikely to adversely impact grid reliability. A request for modification to an existing UDP Aggregation will be rejected if the ISO deems it to have a high likelihood of adversely impacting grid reliability, or if, in the judgment of the ISO, it contains incomplete or inadequate documentation.

In the event that a resource in a UDP Aggregation changes from one Scheduling Coordinator to another, the ISO will completely dissolve the UDP Aggregation. The SC must submit a new Request for UDP Aggregation.

 CALIFORNIA ISO <small>California Independent System Operator</small>		Procedure No.	
		Version No.	0.1
DRAFT - UDP Aggregation Approval Process for Scheduling Coordinators		Version Date	6/25/03
		Effective Date	

ISO-Initiated Modification

The ISO may be forced to temporarily restrict one or more units within a UDP Aggregation in real time. In this case, the Real Time dispatcher will temporarily restrict the unit(s)' schedules and notify the SC with a phone call. The temporary restriction is then entered into SLIC using the key words "Suspended UDP Aggregation". When the temporary restriction is ended, the Real Time dispatcher will notify the SC and enter it into SLIC.


If the ISO is forced to permanently suspend an aggregation, the suspension will take effect at the end of the operating hour in which it is issued. The ISO department that suspends the aggregation must write a report explaining the reason for the suspension and the date and time it took effect, and forward the report to Client Relations so that they can notify the SC of the decision and forward the report to them.

Proposed Tariff

"The Uninstructed Deviation Penalty will be calculated and assessed for each resource individually, except that as specified in this Section, resources may be aggregated. Uninstructed Deviations can be aggregated for resources that are: 1) represented by the same Scheduling Coordinator and 2) connected to the same ISO Controlled Grid bus and voltage level. The ISO will consider, on a case-by-case basis, requests to aggregate Uninstructed Deviations amongst resources represented by the same Scheduling Coordinator but not sharing a common ISO Controlled Grid bus and voltage level. In particular, the ISO will consider whether the request concerns resources related by a common flow of fuel which cannot be interrupted without a substantial loss of efficiency of the combined output of all components; whether the Energy production from one resource necessarily causes Energy production from other resource(s); and if the operational arrangement of resources determines the overall physical efficiency of the combined output of all of the resources. The ISO may temporarily suspend any aggregation as needed to ensure reliability. The applicable P-max of aggregated groups of resources will exclude units that are not operating."

UDP Review Team

The UDP Review Team will be unique to each Request depending on the location and complexity of the proposed aggregation. It will at minimum comprise one each of Operations Engineering and Grid Operations staff.

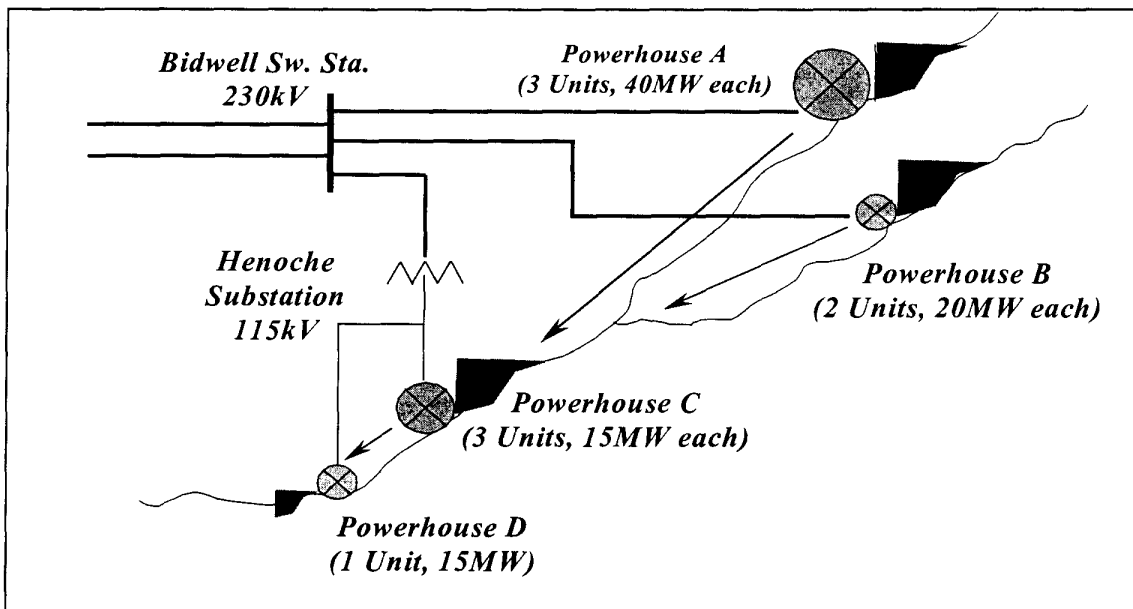
 CALIFORNIA ISO <small>California Independent System Operator</small>	Procedure No.	
	Version No.	0.1
DRAFT - UDP Aggregation Approval Process for Scheduling Coordinators	Version Date	6/25/03
	Effective Date	

Attachment A

* DRAFT * Sample Description, Physically Interlinked Resources

The Marshall River System is an intricate watershed of hydraulically interconnected dams, reservoirs, tunnels and powerhouses spread over a large geographic area. Dispatch of resources on this watershed must ensure efficient power generation while providing a reliable water supply source for municipal, agricultural, and environmental needs. The Marshall River System consists of 9 generating units in 4 powerhouses (220MW total), all owned and operated by FriendlyCo, LLC. Water for the Marshall River System is collected and stored in 4 man-made lakes. The watershed consists of Powerhouses A, B, C, and D (see sketch). Water flows from Powerhouses A and B into the forebay reservoir of Powerhouse C. From there, Powerhouse C directly discharges water into the forebay of Powerhouse D; this forebay is relatively small and has limited storage capacity or "ponding" capability. Powerhouse D operates on "float control": as Powerhouse C increases or decreases its generation level, Powerhouse D unit immediately follows based on water level changes (usually instantaneous, no more than 5 minute lag). Powerhouse D directly mimics all changes in PH C's generation; because of this physical interrelationship, we believe that any UDP Resource Aggregation involving Powerhouse C should also include and recognize the output of Powerhouse D.

Sketch, Marshall River System



115kV and 230kV transmission lines electrically interconnect powerhouses of the Marshall River System. Powerhouses A and B connect directly to the 230kV system; Powerhouses C and D are connected by to radial 115kV network, which steps up to 230kV at Henoche' substation. These transmission lines converge at the Bidwell Switching Station, where two 230kV lines (35 and 55 miles in length) provide an outlet connection to the rest of the ISO Grid.

ATTACHMENT F

and are available for public inspection. This filing may also be viewed on the Internet at <<http://www.ferc.gov>> using the "FERRIS" link. Comments, protests, and interventions may be filed electronically via the Internet in lieu of paper. See 18 C.F.R. § 385.2001(a)(1)(iii) and the instructions on the Commission's Internet site under the "e-Filing" link.

Comment Date: _____