Memorandum

To: ISO Board of Governors

From: Keith Casey, Acting President and Chief Executive Officer and Vice President, Market & Infrastructure Development

Date: June 3, 2011

Re: **Decision on Congestion Revenue Rights Enhancements**

This memorandum requires Board action.

EXECUTIVE SUMMARY

The California Independent System Operator Corporation releases short-term and long-term congestion revenue rights (CRRs) as a feature of its new market design that has been in effect since April 1, 2009. CRRs are a financial instrument for hedging congestion cost in the day-ahead market. They are released annually and monthly through an allocation process and auction. CRRs provide payments or assess charges to holders of such rights based on the direction of congestion reflected in locational marginal prices between different defined pricing locations on the ISO grid. The receipt of revenue related to CRR holdings allows market participants to manage their exposure to congestion costs in the day-ahead market.

With over two years of CRR experience, the ISO and stakeholders have identified a set of beneficial refinements and clarifications to the processes supporting the CRR design. All but one of these changes are minor tariff clarifications that do not require Board approval and therefore are not discussed in this memo. The one substantive change for which Management is seeking Board approval is to incorporate expected transmission outages into the transmission network model used in the annual CRR allocation and auction process. This change will improve the CRR design by better ensuring the payment obligations to CRR holders can be adequately met through the congestion revenues collected in the day-ahead market, the importance of which is explained more fully in the main body of this memo.

Management believes incorporating expected transmission outages into the transmission network model for allocating and auctioning annual CRRs will address ongoing concerns with revenue adequacy resulting from releasing too many CRRs in the annual process.

Moved, that the ISO Board of Governors approves the proposal regarding congestion revenue rights enhancements, as described in the memorandum dated June 3, 2011; and

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

DISCUSSION AND ANALYSIS

Congestion revenue rights are financial instruments made available to ISO market participants to manage their financial risk associated with transmission usage congestion costs in the day-ahead market. A CRR is defined by a source-sink pair[1], a megawatt quantity, and a term consisting of a season or a month and a time of use (on-peak or off-peak). The ISO also makes available long-term CRRs defined on a seasonal and time-of-use basis that exceed an annual period up to ten years.

The ISO conducts an annual allocation and auction to distribute CRRs to market participants. The ISO releases seventy-five percent of the modeled transmission capacity in the annual process. On a monthly basis, the ISO conducts additional allocation and auction processes to release congestion revenue rights for the remaining twenty-five percent of modeled transmission capacity less planned outages and other capacity adjustments. Load serving entities receive the benefits of the CRR market though the allocation of CRRs and a share of the auction proceeds.

CRRs are funded through the congestion revenues collected in the ISO's day-ahead market. These congestion revenues are maintained in a CRR balancing account in which the ISO accounts for any excess or shortage of congestion revenue. Proceeds from sales of CRRs in the ISO auctions are also transferred to the applicable monthly CRR balancing account. CRRs are settled hourly and are required to be fully funded. However, the balancing account can incur shortages when the congestion revenue collected through the day-ahead market is less than the payments owed to CRR holders. Since the implementation of the new LMP market structure in April 2009 the total revenue deficiency has been approximately $48.5 million. Such CRR revenue inadequacy is funded, on a bi-monthly basis, through allocations of the shortage to load serving entities in proportion to their metered demand. Similarly, surpluses in the congestion revenue rights balancing account are distributed monthly to load serving entities in proportion to their metered demand. The balancing account deficiencies and surpluses area allocated to load serving entities because they are the primary beneficiaries of the CRRs. As explained further below, CRR revenue inadequacy is primarily due to transmission outages that are modeled in the day-ahead market but not reflected in the transmission network model used to allocate or auction the CRRs in the annual or monthly

[1] The "source" being the point of power injection to the transmission network and the "sink" being the point of power withdraw (i.e., consumption). These designations denote the direction of flow on the network (e.g., from source A to sink B) and the price component of the CRR payment, which is defined as the difference in the congestion component of the locational marginal price between the two locations.

process. By including expected transmission outages into the CRR annual process, the CRR revenue inadequacy issue can be significantly reduced.

Include Expected Outages in Modeling of Annual Transmission Capacity

The ISO strives to release the maximum number of congestion revenue rights that can be supported from the congestion revenue collected from the day-ahead market. Annual congestion revenue rights are released on a year-ahead basis using a model of the transmission system and assumptions about its expected usage. On a year-ahead basis, because of the inherently changing nature of the transmission system configuration, it is not possible to perfectly estimate the amount of congestion revenue rights that will be fully funded through the day-ahead market. Therefore, it is not possible to guarantee sufficient revenues for every single hour, day, month, or season. If the assumptions made for the upcoming applicable time period constrain the system excessively, the ISO is likely to release fewer congestion revenue rights than desired by market participants to effectively hedge congestion in the day-ahead market. Conversely, if the transmission modeling assumptions used to allocate and auction CRRs do not sufficiently account for actual conditions that eventually occur in the day-ahead market, an excess amount of CRRs may be released that will not be fully funded by the revenue collected from the day-ahead market.

Under the current CRR design, the ISO does not account for expected transmission outages and de-rates in the annual CRR process. The results of the past three annual processes has shown that revenue adequacy could be improved through enhanced modeling of transmission capacity in the annual process to better account for the impact of expected transmission outages and de-rates. The ISO and stakeholders have determined that modeling expected outages in the annual process will address the past issues with revenue adequacy that resulted from releasing too much capacity in the annual process. The proposed approach targets the areas where outages have historically contributed to revenue inadequacy while not impacting those areas that have not had adverse effects on revenue adequacy. By incorporating expected outages in the annual process, the ISO will be able to better model the transmission capacity that will be available in the actual market runs thereby reducing risks to revenue adequacy. Moreover, incorporating the expected outages in the annual process will enable the release of more capacity in the monthly CRR allocation and auction processes.

POSITIONS OF THE PARTIES

The proposed changes are either supported or conditionally supported by stakeholders as reflected in the attached stakeholder comments matrix. Three of the six parties that commented (SCE, CDWR & Six Cities) provided conditional support. SCE supports the proposal if the ISO agrees to provide information on the effectiveness of the new process. The ISO has committed to providing this information to market participants. CDWR commented that there may be other factors driving the revenue inadequacy. The ISO will continue to analyze any future drivers of revenue inadequacy but believes the primary driver is the transmission modeling issue being addressed by this proposal. Six Cities also commented that there may be other factors driving the revenue inadequacy and suggested that the ISO consider relaxing the full funding requirements for CRRs. The ISO does not believe that this is a feasible solution as full funding requirements have been mandated by the Federal Energy Regulatory Commission in response to federal legislation.

MANAGEMENT RECOMMENDATION

Management recommends that the Board approve the congestion revenue rights enhancements as discussed in this memorandum. The improved modeling of transmission capacity in the annual process will address ongoing concerns with revenue adequacy. If approved, the ISO intends to implement the enhancements by summer 2011.