

## **Congestion Management White Paper**

### **“NO GRANDFATHERING OF TRANSMISSION RIGHTS”**

There are two proposals presently under consideration regarding how the California ISO (CAISO) should implement congestion management on the CAISO system in the future:

- This proposal (“No Grandfathering of Transmission Rights”) advocates using the congestion management approach currently being used at the CAISO, with appropriate recognition if a generator chooses to invest in transmission upgrades beyond those necessary merely to meet grid reliability interconnection requirements.
- The other proposal, dubbed the “ACCM”, which advocates the grandfathering of transmission rights, is more fully described in its respective White Paper.

The name of this congestion management proposal has been selected based on the fact that the issue of the “Grandfathering” of transmission rights is the sole fundamental and philosophical difference between the two proposals.

The two proposals are similar in one respect, however -- both advocate that an investment to upgrade the transmission system, beyond that necessary to meet grid reliability interconnection requirements, should receive some form of suitable credit/recognition for that investment.

This White Paper does the following:

1. Presents a brief history of why the CAISO’s existing congestion management approach is structured as it is,
2. Describes the attributes of this “No Grandfathering” proposal and provides comparisons with the “ACCM” approach,
3. Suggests possible other enhancements to solve the **primary concern expressed by the “ACCM” advocates** – that being a desire for long-term ex ante price certainty for new generators.

### **HISTORY**

The congestion management approach in use by the CAISO since it began operations on March 31, 1998, was the result of 3+ years of broad stakeholder involvement. The design of both the CAISO and the California Power Exchange (CAL PX) was the result of this exhaustive process.

Underlying the essence of the California design is the concept of location marginal cost pricing. This concept formed not only the basis for the zonal congestion management approach within the CAISO, but also the pricing structure of the CAL PX. Locational marginal cost pricing has one key precept associated with it:

- That the commodity (energy) and the transport of that commodity (transmission) should be priced at the next increment of use (or marginal cost)

Along with this core precept is the idea that the most efficient use of the transmission grid, in times of scarcity, was achieved by allocating transmission to those whom place the highest value

upon it. This is the primary idea to keep in mind when deciding whether any degree of grandfathering of transmission capacity, based solely on the timing of connection to the grid, is consistent with the economic underpinnings of the CAISO.

## **ATTRIBUTES OF THE “NO GRANDFATHERING” PROPOSAL**

### **Meets Market Design Precepts**

Today’s zonal congestion management approach is based on the key precepts underlying the California ISO and PX development. The use of adjustment bids allows the CAISO to economically determine the most effective allocation of scarce transmission capacity. By implementing congestion management in this fashion, the CAISO, in its role of efficiently allocating scarce transmission capacity, only cares about price – and not **when** the requestor of that scarce capacity happened to site their generation source.

### **Key Fundamental Difference Between the Two Proposals**

This “No Grandfathering” proposal does not give any “scarce transmission allocation” advantage<sup>1</sup> to generators based on when generation happened to be first interconnected up to the grid – whether that was in 1952, 1992, 1998 or in 2002. Likewise, congestion is also not attributed to any generator based on when the generator connected to the grid. The “No Grandfathering” proposal treats all generators the same, regardless of their in-service date.

For example, if a 1950’s vintage generator (11,000 heat rate) and a late-1990’s vintage generator (7,000 heat rate) are competing for the same scarce transmission capacity, the generator that places the highest value on that capacity will receive it. Presumably, in this example, the newer vintage generator would have more economic ability to bid for the scarce transmission capacity. The final result is that energy is produced from the most cost-efficient generation, thereby resulting in the lowest price for the end consumer.

Conversely, the “ACCM” approach insulates the 1950’s generator from having to compete with the late 1990’s generator for scarce transmission. Any incremental congestion that occurs after the late-1990’s generator connects to the grid is attributed to the late-1990’s generator. In other words, the transmission rights that exist before connection of a new generator to the grid are presumed to belong to existing generators. This is the essence of grandfathering and represents a significant barrier to market entry.

Similarly, if there is Available Transmission Capacity (ATC) on the system and a given generator begins operation in 1999, the “ACCM” approach allows the given generator to “consume” the ATC, providing it with transmission access<sup>2</sup> unencumbered and uncontested by subsequently connected generators for as long as the given generator remains operational.

Allowing the “grandfathering” of any available transmission rights that exist on the system at the time a generator happens to become operational completely undermines the congestion management approach in use by the CAISO, and the precepts that governed its development. It would move California back to the old paradigm<sup>3</sup>, and would represent significant regress.

### **If Transmission Investment is Made, There Should be Suitable Recognition**

This proposal advocates that a generation developer be allowed two choices when interconnecting:

<sup>1</sup> Absent transmission investment beyond that necessary to meet reliability interconnection requirements.

<sup>2</sup> Up to the level of the ATC.

<sup>3</sup> In a world of set-aside contract path transmission rights.

1. Merely meet the necessary grid reliability interconnection requirements, or, additionally,
2. Invest in further transmission upgrades, receiving suitable recognition for such upgrades.

The following is one way to provide generators with the choice in #2 above. Specific implementation details, or other ways of providing recognition for transmission investments (without introducing “grandfathering”), are subject to further discussion and improvement:

- The CAISO, in cooperation with the applicable PTO, would provide a cost estimate in response to a request for one or more levels of “transfer capability increase”. The cost estimate for a given “transfer capability increase” would be binding<sup>4</sup> (in order to give the generator price certainty), and would escalate at an inflation index.
- Once a generator decided to go forth with the transmission upgrade/investment, recognition would take place in the form of a future inter-zonal FTR (for the incremental transmission capacity provided by the investment):
  - If the investment increased the transfer capability of an existing inter-zonal interface, the inter-zonal FTR the generator would receive would be immediate;
  - If the investment increased the transfer capability intra-zonally, then the “recognition” would be in the form of a future inter-zonal FTR (to the extent that a new zone was created due to the level of the intra-zonal congestion triggering formation of a new zone). However, if the intra-zonal congestion remained below the zone creation threshold, and therefore did not trigger formation of a new zone, an inter-zonal FTR would not be created (due to the fact that the generator is not being financially harmed by the intra-zonal congestion).

By allowing generators choice, in the form of either:

- 1) Accepting the congestion price risk of using the existing day-ahead and hour-ahead congestion management protocols, or,
- 2) Investing in transmission upgrades and providing transmission capacity recognition commensurate with the investment,

price certainty has been created and most importantly -- the basic precepts of the California system have been preserved.

### **OTHER ENHANCEMENTS TO FUTURE PRICE CERTAINTY**

Besides the investment alternatives described above, future price certainty could also be enhanced by the following methods (or some variation thereof):

- 1) Longer-term Inter-zonal FTRs – The design of the FTR instrument contemplated that the term of at least a portion of the FTRs would tend to increase once market valuation had taken place over the first several years of implementation.
- 2) Long-term point-of injection ⇨ point-of-withdrawal FTRs – this would solve the problem of intra-zonal congestion price certainty (because presently it is only possible to obtain one-year congestion price certainty on an inter-zonal basis).

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<sup>4</sup> But only to the point that a given investment still resulted in the same incremental transfer capability. For example, a certain transmission upgrade’s incremental transfer capability could degrade (or increase) over time due to demand growth or other factors.