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RE: EPMI ~~EMA~~ Bidding Strategies for Generators

EPMI ~~EMA~~ acts as a schedule coordinator for several generators who are located both inside and outside California. EPMI ~~EMA~~'s bidding strategies are generally determined by the desires of the individual generation owners, ~~who~~ These owners take into account ~~their~~ variable production costs, operational constraints, costs to transport energy to tie points (usually transmission, losses, & tie meter multipliers), and desired profit margin when determining minimum prices to bid into the CAPX or CAISO markets. Also taken into consideration are sales opportunities in non-CA bilateral markets (non-CA generators) which may ~~allow~~ ~~[illegible]~~ result in higher net profits from time-to-time. ~~In addition to identifying costs, acceptable margins, and the most desirable markets,~~ Additionally, some generators have operational flexibility which allows them to bid some ~~of~~ or all of their available output into the CAISO ancillary services

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markets. Non CA generators may be limited in their ability to participate in ancillary services markets because of transmission scheduling requirements ~~under Open Access Tariffs.~~ of transmission providers to points of interconnection with the CAISO under Open Access Tariffs. Many of these generators utilize natural gas and ~~create~~ emissions credits - both of which are subject to daily price changes. During the period of interest (June 1 - Aug 15, 2000) natural gas prices at the SoCal Border increased from ___ $/mmBtu on June 1 to ___ $/mmBtu on August 15 - significantly increasing variable costs. Generators also take into account the possibility that certain hours may not be awarded under the CAPX and CAISO bidding procedures. Non-continuous blocks of hours can expose generators to significant financial uncertainty in that they are generally a "price taker" in the bilateral or CAISO supplemental markets for the unawarded PX hours. Generators take such ~~factors~~ uncertainties into account when determining their desired profit margins on any hour.

Tie point congestion ADDS to the uncertainty for non-CA generators and can increase overall transmission costs ~~[illegible]~~ per unit of delivery power to CAISO intervties. CAISO payment timelines are greater than a generators payment timelines for variable costs - creating additional carrying costs associated with CAISO sales. Generators attempt to schedule planned maintenance in hours when market prices are expected to be lower ~~avoiding~~ in an attempt to avoid ~~any~~ lost opportunities in hours that prices are expected ~~to~~ be higher. Overall, EPMI bids ~~a~~ small quantities of generation into the market, ~~each generator is a singular plant~~ for single plant generation owners who ~~[illegible]~~ only benefit when their plant is operating and selling energy at acceptable margins above their variable costs.