

New Jersey Board of Public Utilities

[Commissioner Fred Butler](#)

Saturday, July 14, 2001

California vs. PJM

- ✿ PJM is a multi-state Independent System Operator (ISO), that encompasses Pennsylvania, New Jersey, Maryland, Delaware, District of Columbia, and parts of Virginia
- ✿ PJM's objectives are to ensure reliability of the bulk power transmission system, and to facilitate an open, competitive wholesale electric market
- ✿ Established in 1927, PJM today handles almost 8% of the country's electric power, with a pooled generating capacity of over 56,000 megawatts over an electric grid of more than 8,000 miles of a high voltage transmission system
- ✿ Operates the largest centrally-dispatched electric system in North America
- ✿ Operates the largest wholesale electric market in the world
- ✿ PJM has more than 140 members representing every segment of the electric industry



PJM's Energy Market

- PJM operates the most liquid and active energy markets in the United States, commonly called the PJM Spot Market.
- The PJM Spot Market Consists of:
 - Real-time, bid-based energy market;
 - Power can be bought and sold on an hourly basis by PJM's members;
 - Bids and offers for energy are accepted on a daily basis; and
 - Bid offers are capped at \$1,000.00.



New Electric Generation in PJM:

- To meet future electric demand within PJM, suppliers are seeking approval for approximately 40,000 MWs of new generation capacity in the PJM region.
- This represents over 60 new generating projects within PJM.
- In calendar year 2001, approximately 2500 MW of new generation capacity will be built in PJM, of which approximately half of that number, 1008 MWs will be built in New Jersey. In the following calendar years in PJM, approximately 4400 MWs will be built in 2002, approximately 4000 MWs will be built in 2003, and approximately 4000MWs will be built in 2004.

Reliability in PJM:

- PJM employs a planning process to ensure that adequate generation supplies are in place to meet the region's electric demand.
- The reserve requirement is a long standing PJM requirement that is intended to ensure that supply is always in excess load, such as in the case when an unexpected outage at a power plant occurs or when extreme weather conditions drive load at higher than forecasted values.
- PJM has historically maintained an installed capacity reserve margin of approximately 18% of forecasted load, where on a going-forward basis, the necessary installed capacity is planned to be in place to exceed forecasted peak loads.

Reliability in PJM: (Cont'd)

- This reserve margin requires that entities serving load within the PJM borders, must provide in advance proof to PJM that they can provide enough firm capacity to satisfy their load obligation plus an additional 18% reserve requirement.
- This reserve margin has provided the appropriate protection that allows supplies of generation to exceed the demand for electricity.

California vs. PJM Differences

ELECTRIC RESTRUCTURING LAWS

Electric Discount and Energy Competition Act (EDCA) did not require the electric utilities to divest their generation assets, did not prohibit the electric utilities from entering into forward long-term bilateral contracts or similar hedging arrangements for the purpose of serving its basic generation customers, and did not require electric utilities purchase their energy needs through the spot market or a power exchange.

California law required the electric utilities to divest their electric generation assets, prohibited their electric utilities from entering into forward long-term, fixed price electricity contracts or similar hedging arrangements, and required the electric utilities to purchase 85% of their electric needs from the daily spot market, commonly called “The Power Exchange.”

California vs. PJM Differences (Cont'd)

GENERATION ASSET SALES

Encouraged electric utilities that have decided to either voluntarily divest their generation assets or functionally separate their generation assets into an affiliate to enter into parting contracts for the energy and capacity associated with the divested or functionally separated generation assets.

No requirement for the electric utilities to enter into parting power purchase contracts with the purchasers of the generation assets for the utility's electric needs.

California vs. PJM Differences (Cont'd)

BASIC GENERATION SERVICES	Electric Utilities are encouraged to develop a supply portfolio consisting of short- and long-term bilateral contracts, hedging arrangements and spot market purchases consistent with market pricing conditions to meet the needs of basic generation assets.	Electric utilities were prohibited from entering into bilateral contracts and were required to purchase 85% of their electric needs from the daily spot market.
WHOLESALE POWER POOLS	Is a member of the highly successful multi-state PJM ISO that encompasses Pennsylvania, New Jersey, Maryland, Delaware, District of Columbia and parts of Virginia. (See Attached for PJM ISO vs. California ISO comparison)	Is a member of the single-state California ISO.

California vs. PJM Differences (Cont'd)

THIRD PARTY SUPPLIERS	Licensing standards for any entity serving electric load in NJ require they must have an additional 18 to 20 percent reserve of supply over and above its load obligation	NO SUCH REQUIREMENT
SUPPLY VS. DEMAND	PJM has historically maintained an installed capacity reserve margin of approximately 8 percent of forecasted load (which includes load growth), where on a going forward basis, the necessary installed capacity is planned to be in place to exceed forecasted peak loads. Suppliers are seeking approval for approximately 40,000 Mws of new generation capacity in the PJM region. This represents over 60 new generating projects within PJM.	From 1997 to 2000, electricity demand had grown by 14 percent while electric supply limped along to a mere 2 percent growth. In many hours, the California ISO was forced to declare Stage 2 and Stage 3 operating emergencies, where reserves have fallen below 1.5 percent, and where further decline of reserves would result in the California ISO implementing rolling blackouts.

California vs. PJM Differences (Cont'd)

IMPORTS

PJM Relies on minimal power imports to meet its load obligations.

California relies on significant imports from out-of-state electric production facilities from surrounding states, which accounted for 20 percent of its energy needs.

FUEL MIX

PJM has a more diverse mix of generation fuel resources, giving the PJM region greater flexibility. For example, the increase in natural gas prices has less of an impact on wholesale power prices in PJM as it does in California.

California does not have a balanced mix of generation fuel sources, where approximately 51 percent of their generation is gas fired.

California vs. PJM Differences (Cont'd)

WEATHER PJM reserve margin requirement is intended to ensure that supply is always in excess load, such as in the case when extreme weather conditions drive load at higher than forecasted values.

Weather conditions such as higher than normal temperatures in California this summer and cooler temperatures in other parts of the region this fall have resulted in increased power demand at times when supplies were low.