BEFORE THE STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

I/M/O THE PROVISION OF BASIC GENERATION SERVICE PURSUANT TO THE ELECTRIC DISCOUNT AND ENERGY COMPETITION ACT	**) BPU DOCKET NO. EX01050303**

DIRECT TESTIMONY OF PAUL CHERNICK ON BEHALF OF THE NEW JERSEY DIVISION OF THE RATEPAYER ADVOCATE

BLOSSOM A. PERETZ, ESQ.
RATEPAYER ADVOCATE
Division of the Ratepayer Advocate
31 Clinton Street, 11th Floor
P. O. Box 46005
Newark, New Jersey 07101
(973) 648-2690 - Phone
(973) 624-1047 - Fax
http://www.rpa.state.nj.us
njratepayer@rpa.state.nj.us

AUGUST 29, 2001

TABLE OF CONTENTS

TABLE OF EXHIBITS

I. Identification and Qualifications

Q: State your name, occupation and business address.

A: I am Paul L. Chernick. I am the president of Resource Insight, Inc., 347 Broadway, Cambridge, Massachusetts 02139.

Q: Summarize your professional education and experience.

A: I received an SB degree from the Massachusetts Institute of Technology in June, 1974 from the Civil Engineering Department, and an SM degree from the Massachusetts Institute of Technology in February, 1978 in technology and policy. I have been elected to membership in the civil engineering honorary society Chi Epsilon, and the engineering honor society Tau Beta Pi, and to associate membership in the research honorary society Sigma Xi.

I was a utility analyst for the Massachusetts Attorney General for more than three years, and was involved in numerous aspects of utility rate design, costing, load forecasting, and the evaluation of power supply options. Since 1981, I have been a consultant in utility regulation and planning, first as a research associate at Analysis and Inference, after 1986 as president of PLC, Inc., and in my current position at Resource Insight. In these capacities, I have advised a variety of clients on utility matters. My work has considered, among other things, power supply planning, rate design, cost allocation, and utility industry restructuring. My resume is appended to this testimony as Schedule PLC-1.

Q: Have you testified previously in utility proceedings?

A: Yes. I have testified approximately one hundred and seventy times on utility issues before various regulatory, legislative, and judicial bodies, including

the Massachusetts Department of Public Utilities, Massachusetts Energy Facilities Siting Council, Vermont Public Service Board, Maine Public Utilities Commission, Rhode Island Public Utilities Commission, Connecticut Department of Public Utility Control, Texas Public Utilities Commission, New Mexico Public Service Commission, District of Columbia Public Service Commission, Michigan Public Service Commission, Minnesota Public Utilities Commission, Public Utilities Commission of Ohio, South Carolina Public Service Commission, North Carolina Utilities Commission, Florida Public Service Commission, Pennsylvania Public Utilities Commission, New York Public Service Commission, Arizona Commerce Commission, New Orleans City Council, Federal Energy Regulatory Commission, and the Atomic Safety and Licensing Board of the U.S. Nuclear Regulatory Commission. My resume includes a detailed list of my previous testimony.

Q: Have you testified previously before this Board?

A: I filed an affidavit in support of the Ratepayer Advocate's comments in Docket No. BPU EM00020106, on the allocation of proceeds from Atlantic Electric's fossil-plant sale. I also testified for the Ratepayer Advocate in Docket No. GM00080564, on the proposal by Public Service Electric and Gas to transfer its gas contracts to an unregulated affiliate.

Q: Have you worked on other utility-regulation projects in New Jersey?

A: Yes. I have assisted the Ratepayer Advocate in reviewing two rounds of Atlantic Electric's competitive procurement of energy and capacity to serve its BGS loads, and in negotiations related to the restructuring of the Public Service contracts for gas supply to, and electricity purchases from, the Camden and Bayonne NUGs.

II. Introduction and Summary

Q: On whose behalf are you testifying in this proceeding?

A: I am testifying on behalf of the Division of Ratepayer Advocate.

Q: What is the purpose of your testimony?

A: I discuss the proposal by the four New Jersey electric utilities (Public Service, Jersey Central Power and Light, Atlantic Electric, and Rockland Electric) to use a Simultaneous Descending Clock Auction to acquire wholesale power supply to provide all of their Basic Generation Service (BGS) for the fourth year of the transition period, August 2002–July 2001.

Q: Please summarize your assessment of the utility proposal.

A: The proposal of the Electric Distribution Companies would expose the ratepayers to unnecessary risk, in part because of uncertainties in the competitive market. The structure of the auction leaves it subject to manipulation. Finally, the proposal, for all its complexities and risks, fails to promote retail competition.

III. Critique of the Electric Distribution Companies' Proposal

Q: How is the utility proposal risky?

A: The entire approach is fraught with risks. I have identified several contributing factors, but I doubt that the following list is exhaustive.

- The Simultaneous-Descending-Clock-Auction format appears to have never been used before.

- Even auction formats in the broader Simultaneous Multi-Round (SMR) category (of which Simultaneous Descending Clock is a subset) have been used only for sales, never to purchase anything.
- The auction would be used to procure supply that is likely to cost on the order of $5 billion.[1] This is an astoundingly large scale for an experimental procurement method.
- Serving the 17,300 MW of retail load in the proposed auction would require about 20,500 MW of installed capacity, or approximately 34% of PJM's summer 2001 capacity of 61,000 MW.[2] An acquisition this large could distort an already tight market.
- If the response to the auction were inadequate, the Companies' proposal would constrain the utilities to purchase the remainder of the power from the PJM spot markets, and would preclude any contract purchases. Spot markets for capacity and particularly energy are highly volatile; mandatory reliance on spot-market purchases is one of the factors widely cited as contributing to the California debacle.
- The utilities have not been able to provide any supporting theory in the absence of any relevant experience. In particular they are unable to provide a basis for setting such crucial parameters as (1) the amount of capacity and the number of bidders necessary to produce a competitive

[1]The $5-billion estimate is the product of 18,000 MW of load at a typical 65% retail load factor and an aggregate price of $50/MWh for shaped energy, capacity and ancillary services.

[2]The response to RAR-BGS-29 gives a value of 19,000 MW, based on a Forecast Pool requirement of 8.97%. This is an unforced capacity obligation, not the installed capacity requirement, which equals 19% above the normalized peak load.

and efficient auction or (2) the size of the price decrements as a function of capacity bid.[3]

- The Companies' approach would preclude any test of the bid prices against the costs of other approaches for supplying BGS.
- The Companies recognize that one of the critical decisions in the type of auction they propose is the relationship between the initial level of interest by bidders and the amount of BGS service to be purchased. They further recognize that the Board must establish the rules for determining whether all BGS, or some smaller fraction, will be acquired through the auction. Yet the utilities have not provided proposals for these rules or their rationale for those proposals.
- The proposed period for the acquisition of BGS supply does not match the currently proposed capacity-responsibility periods. This complicates the task of acquiring capacity.

Q: For what kinds of auctions has the Simultaneous Multi-Round approach been used?

A: As discussed in IR RAR-BGS-7 and S-18, SMR auctions have been used to sell rights to telecommunications frequencies, and power contracts from some Alberta power plants.[4] An SMR auction is being developed, with many

[3]See responses to RAR-BGS-11, RAR-BGS-22 and RAR-BGS-23.

[4]Interestingly, the response to S-18 avoids answering the question, "Has this process ever been used to procure commodities," and treats purchases and sales as if they were the same. The response even says "Both the SDCA [Simultaneous Descending Clock Auction] and the SMR consist of the simultaneous sales of many items in a series of rounds," when the SDCA is a purchase auction, not a sale auction. The Companies have not addressed the differences between purchases and sales.

delays, to sell power contracts from some power plants in Texas, and a similar auction is planned in France.[5]

Q: Please elaborate on the relationship between the initial level of interest by bidders and the amount of BGS service to be purchased.

A: One of the critical questions is amount of load to be auctioned, as a function of initial interest. If the initial bids cover, for example, 40,000 MW of load (more than twice the amount the Companies need to serve) the market may be robust and competitive (although this is not necessarily the case as I discuss elsewhere in this testimony). If, however, the initial bids are for less than the 18,000 MW sought, or even barely more than the requirements, the offers would not be sufficient to produce a competitive auction for the entire 18,000 MW, and the amount of BGS to be acquired must be reduced.

The Companies are not aware of any theory for determining the ratio of the quantity bid to the quantity to be auctioned. The Companies could not even identify an analysis that discussed alternative rules and their pros and cons (IR RAR-BGS-11). The closest they could come to any discussion of this issue was a *proposal* in an Italian telecom auction to limit the licenses to be auctioned to be one less than the number of bidders (IR RAR-BGS-13).

Q: What is the Companies' basis for insisting that any BGS supply not acquired through this single auction be acquired from the spot market?

A: The Companies argue that this commitment by the Board would put the marketers' backs to the wall, with no chance to retreat to later bilateral trans-

[5]The Companies' lists of past and proposed SMR auctions differ. I have assumed that any auction mentioned in any response occurred or is planned, even if the Companies left it out of other lists.

actions. Such an arrangement, the Companies argue, would force marketers to participate fully in the auction, since they otherwise would be exposed to the risks of the spot market in selling their resources. The Companies ignore the fact that they are also proposing to put the Board and ratepayers against the wall of spot markets, with no chance to retreat.

The situation for ratepayers is even worse than for marketers, since many marketers can simply decide to sit out the fourth transition year in New Jersey. They could either not purchase resources in the first place or could sell what they have to any or all of the following:

- utilities in other PJM states with continuing BGS-like obligations (or to firms with responsibility for provide the BGS service to those utilities),
- customers who are shopping in the market (who may be more numerous, if the Companies' auction is carried out and performs poorly),
- other pools.

Q: Do the Companies recognize that the exposure of the BGS ratepayers to the spot market must be limited?

A: Yes.

Q: How do they propose to limit the exposure of the BGS ratepayers to the spot market?

A: The Companies' only suggestion to limit exposure to the spot market is that the Board could establish the portion of the BGS supply to be procured from an auction for bundled service, regardless of the price or the competitiveness of the bidding.[6]

[6]The Companies make this proposal at p. 15 of "The EDC Proposal," Part II of the their filing. The details of the Companies' proposal are confidential.

Rather than suggesting a working alternative, should the auction prove to be insufficiently competitive, the Companies propose to force ratepayers into the spot market. Recognizing that the spot market is not an acceptable alternative, they suggest that the Board might then force ratepayers back into the auction—even if the auction would fail from lack of interest.

The utilities have not identified any solution for the problems their proposal could create.

Q: In what ways is the Companies' approach subject to manipulation?

A: There are at least three general ways in which this large, simultaneous auction could be manipulated, as follows:

- Generators or marketers could exercise market power.
- Bidders could overstate the apparent level of competition.
- Bidders could collude.

Q: How could generators exercise market power?

A: The major suppliers of generation that is not already committed to serve retail loads in this period can quote high prices for their products to marketers, forcing the market-clearing price for BGS service well above the competitive level. Since at least some of the generating companies will have affiliates bidding in the BGS auction, those higher prices would increase the profits to both the generating companies and the affiliated marketers.

There are likely to be a few major suppliers on the generation level, particularly PSEG Power and perhaps Reliant, whose participation in the auction, through affiliates or third parties, can determine the auction prices.

This strategy can be successful even if a significant fraction of the BGS load could be served by power from generators who are willing to offer lower prices. Due to the structure of the auction, all remaining bidders at the

end of the auction will receive the higher price determined by the marginal suppliers (who may be relying on overpriced power from generators exercising market power).

The issue of market power is further complicated by the need for bidders to bundle a variety of generation services (baseload, intermediate, peaking, reserves, and ancillary services). There may be opportunities for exercising market power in a particular service, by the owners of particular types of power plants, in addition to market power in more generic capacity and energy markets.

Q: How concentrated is the control of uncommitted generation for the period of the BGS auction?

A: The Companies have provided no information on this critical subject (RAR-BGS-36). For all they know, their proposal may expose New Jersey ratepayers to prices that are controlled by one or a few large generation companies.

Unlike the numerous applications in which SMR auctions have been used to sell licenses and rights, and bidders required little more than cash to participate, the bidders in the BGS auction will need to back up their bids with generating capacity. That capacity is in limited supply, compared to the supply of capital from banks and other lenders for purchases of telecom rights. Without knowing how much capacity is under contract to serve customers for the equivalent of BGS in other jurisdictions, and direct-service customers throughout the region, it is not possible to determine how competitive the supply of generation for the BGS auction would be.

Q: Is the supply of uncommitted generation capacity to serve the proposed auction likely to be highly competitive?

A: The supply in the summer of 2002 does not seem to be particularly robust. PJM expects about 64,000 MW of generation to be available in the summer of 2002.[7] This is only about 2,000 MW above the requirement 62,000 MW (IR RAR-BGS-26b). Assuming that capacity is committed to serve the rest of the PJM load (mostly through other states' equivalents of BGS), about 22,000 MW of capacity would be available to compete to provide 20,000 MW of requirements. The ratio of initially bid capacity to requirements would then be no more than 1.1. This is well below the 1.26–1.6 range of interest ratios that the utilities consider (in RAR-BGS-21) to be required for a competitive auction.[8] If capacity does have a role in the BGS auction, as seems obvious despite the Companies' denials, the supply appears precariously thin.

---

[7]"2001 Summer PJM Reliability Assessment," cited in RAR-BGS-26d. In that response the utilities refer to a "range of 67,000 to 74,000 MW of installed capacity in the 2002–2003 timeframe," but the 67,000-MW value appears to be PJM's expectation for 2003, and the 74,000 value does not appear in the source document. The 2001 MAAC forecast for NERC projects 65,600 MW of resources for summer 2002. However, this forecast lists all new additions as combustion turbines, which raises questions about the accuracy of the capacity projections.

[8]This range of ratios is based on sales, rather than purchases. It is not clear how the Companies selected this range, as they were able to provide data on units offered and units bid for only 12 auctions, of which three auctions had less initial interest than the number of units offered. Of the remaining auctions, five had initial interest in two to five times the number of units available. This leaves four auctions with interest ratios of 1.21, 1.27, 1.44 and 1.84. The Companies have not explained how they measured the success or failure of these four auctions, and how that led them to determine that the critical value fell between 1.26 and 1.6.

The issue of generation supply in PJM is further complicated by the expectation that New York's generation supply will be very tight in 2002 and 2003, and that load-serving entities in New York are likely to be purchasing capacity from PJM.

Q: Do supplies need to be very concentrated to produce market power?

A: No. The three generation companies that have been accused of manipulating market in California have the following shares of California capacity:

- 6% for Mirant, the former Southern Company generation affiliate;
- 4% for the Dynegy-NRG partnership;
- 7% for Reliant.[9]

The Companies' proposal does not provide any protection against exercise of market power by generators, and provides only minor and probably ineffectual responses to exercise of market power by marketers. Even those limited measures would not be triggered if the level of concentration in the bidding were the same as the concentration of generation ownership in California.

Q: How do the Companies propose to check the BGS auction results against prices in the market, to ensure that the prices are no higher than the cost of the Companies direct procurement of power?

A: They offer no such proposal. Once the Board approves the auction structure, if enough bids are received, regardless of price, BGS would be acquired through the auction.

---

[9]These percentages are computed from the California Energy Commission's database of power plants with information as of January 17, 2001. The Commission has made the most recent version of its database, "power_plants.xls," available its web site, www.energy.ca.gov.

Q: Have the Companies used market indicators to check the reasonableness of the prices bid in their competitive procurement of BGS supply?

A: Yes. Before and during the solicitation of energy and capacity from marketers, Atlantic Electric used broker bids and production-costing models to determine the likely range of short-term market prices, and to set maximum prices for longer-term contracts. In one case, Atlantic Electric rejected all contract bids as being too high, compared to its benchmarks. In other auctions, the utility was satisfied that the bids reflected the market, and accepted the best bidders.

The Companies' proposal precludes this sort of reasonableness check.

Q: Do the Companies anticipate that the proposed auction would encourage competition between generators?

A: No. On discovery, the Companies indicated that they expect the proposed BGS auction to represent primarily competition between marketers in brokering and bundling generation products to create the bundled BGS supply (see, e.g., RAR-BGS-30, RAR-BGS-33, RAR-BGS-36a, RAR-BGS-38).

The marketers would also be assuming a range of risks, including changes in load shape (including those due to changes in the mix of sales by class) due to weather, the economy, and migration to direct competition. Those risks would require the marketers to add a margin to the expected cost of generation services. This margin may exceed any savings that may result from clever bundling.

Q: How could marketers exercise market power?

A: In much the same way that the generators can. A marketer who controls a significant portion of the supply, through either a corporate relationship with

a generation company or contracts with generators, can demand higher prices than would be achieved in a competitive market.

Due to the range of generation products that must be bundled together, it is not clear how many marketers will be able to participate in the auction.

Previous SMR auctions have suffered from collusion between bidders (RAR-BGS-6). The form of that collusion was not anticipated before the auctions were held. The requirements to divulge "association" in the Companies' proposal might not constrain forms of cooperation and communication that have not been encountered previously, since the SDCA format has never been used before.

In particular, the proposal does not appear to address the issue of a generation supplier providing pricing signals to, and receiving signals from, multiple bidders to whom the supplier is providing generation services. The prices at which a generating company is willing to sell generation products may fall during the auction as the amount it is obligated to sell falls (as the marketers with whom it has agreements reduce their commitments). Thus, some such communication may be essential to the operation of the auction. It is not clear how essential communication can be permitted without also permitting a large generating company to influence multiple bids, to the mutual benefit of the generator and its marketer customers.

Opportunities for exercise of market power by one or more suppliers may be increased by the amount of information that the Companies propose to make public. The Companies' proposal would directly release some information regarding the amount of bids. In addition, the price decrements would be directly tied to the amount of the bids, over a wide range of

bidding, allowing bidders to determine quite precisely the total quantity of tranches bid in the previous round.

Q: Will it be possible to determine whether the observed bids are truly independent and additive?

A: No. A generating company may be offering the same capacity through two marketers, one of whom is likely to drop out of the auction early. The generating company may have set a high price for its power, or may retain the right to withdraw its offer during the auction. A marketer may also start out offering to serve more load than it actually intends to supply. These strategies would not expose the bidders to much risk. If the auction price turns out to be so high that the generator or marketer ends serving more load than it intended, it should be able to acquire the additional generation products in the marketplace and still earn a healthy profit.

The Companies recognize that, in the sort of highly automated auction they have proposed, bidders' overstatement of initial interest can be a serious problem. The Companies propose a complex strategy for determining whether the auction is competitive, relying primarily on the number of tranches bid in the initial rounds.[10] Yet an auction that starts with many announced bidders, each offering to serve large amounts of load, may in fact represent little real competition. The mechanisms that are proposed as protections against gaming in the Companies proposal appear to have been selected in an arbitrary and judgmental fashion. The Companies have not provided any theory or empirical evidence to support the numerical tests they propose to apply, or the stage in the auction at which the tests would be applied.

[10]The details of the Companies' proposal are confidential.

Even were the Board convinced that the Companies' consultants have made a reasonable set of educated guesses in selecting the tests of serious competitiveness, those sort of guesses should not be the basis for committing New Jersey to purchase BGS for 18,000 MW of load.[11] Relying on educated judgment for the design of an experimental acquisition of a few hundred megawatts of BGS supply statewide might be reasonable; relying on judgment for the state's entire supply is not.

Q: How does the utility proposal fail to promote retail competition?

A: The BGS supply would be provided entirely at the wholesale level. The suppliers would not achieve any visibility to consumers, who would have no reason to even know that their supply is from a third-party supplier.[12] This approach will not increase consumer understanding of or interest in competitive energy procurement.

Q: Do you have any concerns about the schedule that the Companies have proposed for the auction and the provision of competitive BGS supply?

A: One concern is that the proposed auction would occur very soon after the Board's order establishing the proceeding. It is not clear that marketers will have time to secure commitments for the generation services that they will need to support their bids. Any uncertainty in the cost of services to the marketers would tend to increase the risk to those bidders and increase the prices they must bid.

---

[11]There is little relevant experience from which anyone's judgment can be educated on the operation of a Simultaneous Descending Clock Auction.

[12]This issue is explored in greater detail in the testimony of Ratepayer Advocate Witness Scott Hempling.

The proposed August 1 2002 implementation date for the competitive BGS supply is also problematic. In June, FERC approved changes to the PJM market rules that are especially important for the treatment of capacity obligations for the summer period. As FERC described that changes to the PJM Reliability Assurance Agreement, they:

> (a) adjust the time period over which an LSE must commit generation resources to PJM to meet its capacity obligations under the RAA from a daily commitment to a seasonal commitment ranging from three to five months. The three seasonal intervals will be June through September, October through December, and January through May;
>
> (b) determine the deficiency charge on an interval basis, so that an entity will be charged a deficiency charge based on the day in which it was most deficient during that season, and the charge will equal that daily amount times the number of days in the season; and
>
> (c) require generation owners to commit excess capacity (capacity not already committed to an LSE) to PJM for an entire season, rather than on a daily basis, in order to participate in the distribution of revenues from capacity deficiency charges to LSEs. (Docket No. EL01-63-000, Order Accepting Amendment, June 1, 2001)

The proposed period for the acquisition of BGS supply does not match the currently proposed capacity-responsibility periods, increasing the complexity of each bidder's task in lining up capacity. Under the new PJM rules, the standard summer capacity product will become a block of unforced capacity for June to September. The BGS suppliers will need to acquire about 18,000 MW of capacity for August 1 2002 in the middle of the summer-2002 responsibility period of June to September, and make plans to dispose of that capacity in the middle of the summer-2003 period. Capacity for these partial summer periods, being non-standard products, are likely to be more difficult to trade and to expose marketers to greater risk. The short

interval the Companies propose between Board approval and the start of the auction will further complicate this task.

An additional concern with the timing is that FERC has recently ordered PJM to form a regional transmission organization with the New York and New England ISOs. Neither the timing of the merger nor the market rules that might emerge from such a combined regional transmission organization are yet determined, further increasing marketer risks.

Q: How should the Board respond to the utility proposal for bidding of BGS supply?

A: The Board and parties will require additional time to resolve the concerns I have discussed above and develop a more appropriate plan for BGS supply. To give more time for this process, the Board could order the Companies to acquire generation services to meet BGS supply through September 2002, allowing the Board a few more months to determine the form of whatever longer-term auction it chooses to implement.[13] This delay will also align subsequent BGS supply years with the PJM capacity obligation intervals.

Q: What suggestions do you have regarding BGS supply strategy after September 2002?

A: Ratepayer Advocate Witness Scott Hempling discusses the Board's range of options for procuring bundled BGS supply. I would add to his discussion only two additional points.

[13]In addition to the two months of direct delay, prospective BGS suppliers would not need to obtain summer generation resources (which are more expensive and scarcer) until June 2003. Removing the requirement to obtain summer resources for summer 2002 should permit a least a few months' delay of the auction.

First, due to the market conditions I discuss above, the Board should weigh ordering the utilities to procure bundled BGS supply in smaller increments, rather than to procuring all the supply in a single auction. This is particularly true if the Board selects a novel and untested auction process, such as that the Companies have proposed.

Second, for any BGS supply that is not acquired in a bundled form, through whatever auctions the Board establishes, the utilities should procure bilateral energy and capacity contracts, supplemented by balancing and ancillary services from the PJM markets. This procurement would be similar to the approach taken by Atlantic Electric to supplement its retained generation and transition contracts.

Q: Does this conclude your testimony?

A: Yes.