

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Devon Power LLC, et al.

)

Docket No. ER03-563-030

AFFIDAVIT OF

**PETER CRAMTON., Ph.D.,
on behalf of ISO New England, Inc.,**

5 March 2006

Qualifications

1. My name is Peter Cramton. I am Professor of Economics at the University of Maryland and Chairman of Market Design Inc. Over the last 20 years, I have published research on auction theory and practice in the leading peer-reviewed economics journals. During the last 12 years, I have applied this research in the design and implementation of auction markets worldwide, especially in North America and Europe. I have led the design and implementation of dozens of high-stake electricity auctions in the United States, France, and Belgium, using the simultaneous clock format, as well as gas auctions in France and Germany. I have advised several energy companies on auction strategy in major energy and capacity auctions in the United States and Canada. I have advised several countries in the design and implementation of spectrum auctions. I have advised telecommunications firms on bidding strategy in more than 25 spectrum auctions (all simultaneous ascending auctions). Since 1998, I have advised ISO New England on electricity market design, and I am one of two lead experts, with Steven Stoft, retained by the ISO for the proposed forward capacity market in New England. I received my B.S. in Engineering from Cornell University and my Ph.D. in Business from Stanford University. My vita, which includes a list of my publications and other experience, is attached.

Introduction

2. I have participated fully in the development and negotiation of the capacity market design that is included in the proposed settlement agreement filed in *Devon Power, LLC* (FERC Docket No. ER03-563-030) on 6 March 2006.

3. I have reviewed the document entitled, “Settlement Agreement Resolving All Issues” dated 6 March 2006, and Section VI of the “Explanatory Statement,” which describes the Forward Capacity Market (“FCM”).
4. The FCM provides a sound framework for a successful capacity market. The design in the settlement contains the essential ingredients, such as robust price formation, protections against monopoly and monopsony market power, and strong performance incentives. Market participants, and ultimately the electricity consumers of New England, will benefit from the important innovations in New England’s forward capacity market.
5. The framework laid out in the settlement agreement appears sound. However, great care and attention to the details will be required to assure a successful implementation.

Price Formation

6. The FCM adopts an approach consistent with my underlying philosophy of a good capacity market—that it rely on the unmitigated bids of new entry for price formation.
7. A major challenge of the auction design is assuring that the clearing price is determined from competitive forces, rather than the exercise of market power. The challenge is great, because in every year the quantity of existing capacity dwarfs the quantity of new capacity, the concentration of ownership is high, and the elasticity of demand is zero resulting in a vertical demand curve. For much of the existing capacity, going forward costs are small relative to the cost of new entry (CONE), as a result of substantial sunk costs. Thus, it is tempting for existing capacity to withhold, either physically or economically, to achieve a high clearing price. The FCM does a good job of mitigating this possibility without distorting the competitive price-setting forces. It does this in two ways.

8. First, at qualification, existing suppliers must enter all import/export, Permanent De-list, and De-list bids that are above .8 CONE. For transparency, these bids are posted one day after the qualification bid deadline. If a unit's Permanent De-list bid is accepted in the auction, the unit is not eligible to receive capacity payments in this or any future commitment period. Permanent De-list bids above 1.25 CONE and De-list bids above .8 CONE must be reviewed and qualified by the ISO's Internal Market Monitoring Unit before the bids are entered into the forward capacity auction.
9. Second, the ISO conducts a descending clock auction for the required new capacity, recognizing bids from existing supply. The descending clock auction determines the clearing price paid to all capacity procured in the primary auction. Since the bids from existing supply are submitted at qualification, the ISO knows the quantity of new capacity required to reach the installed capability requirement as a function of price, recognizing any accepted bids from existing supply. Bids from existing supply (import/export, Permanent De-list, and De-list bids) at or below .8 CONE can be directly entered into the descending clock. These bids do not require approval of the market monitor and are eligible to set the price. De-list bids at or below .8 CONE may be rationed, if so designated by the supplier.
10. I support this approach to price formation. It mitigates both monopoly and monopsony market power without interfering with the competitive process.

Protections in the Event of Auction Failure

11. The forward auction approach presumes that potential new projects will produce a competitive auction. Nonetheless, it is important to have rules that address what happens if the presumption is not realized. The failures can take two forms: inadequate supply and

insufficient competition. Inadequate supply occurs when too little new capacity participates in the auction to cover demand at any price; insufficient competition occurs when there is adequate supply, but not enough new entry to presume a competitive auction.

12. The FCM has important remedies in the event of either inadequate supply or insufficient competition. In each case, an auction is used to the extent possible; that is, the remedy is limited to the zones with inadequate supply or insufficient competition. In addition, the remedy is chosen so as to encourage the development of new projects, since it is the absence of new projects that has created the auction failure.

Performance Incentives

13. The final key element of New England's forward capacity market is performance incentives. Performance incentives are needed to motivate (1) efficient investment in the right mix of resource technologies and characteristics, and (2) efficient operation of resources.
14. The absence of the demand side and concerns about market power have led most electricity markets to adopt an energy price cap. This capping of the energy spot price takes money from the energy market, resulting in: (1) the wrong quantity of resources, (2) the wrong mix of resources, and (3) the wrong operating incentives. The forward capacity auction gets the quantity right, but performance incentives are needed to induce (1) the right mix of resources, and (2) the efficient operation of resources.
15. The FCM relies on two instruments for performance incentives: Shortage Hour Availability (SHA) and a Peak Energy Rent (PER) hedge. SHA restores some of the incentives for resource mix and better operation that have been lost to price capping. Of

at least equal importance, the PER hedge, though it provides no performance incentives beyond the spot energy market, mitigates market power in the energy market and reduces risk for both load and supply by shifting a large portion of compensation during times of scarcity from the spot energy market to the FCM.

16. I fully support the SHA approach and PER hedge. Together they will send the correct price signals at times of system stress and will provide a large reduction in spot market power and a large reduction in risk premiums passed through to consumers.

Conclusion

17. The Forward Capacity Market presented in the proposed settlement agreement provides a sound basis for a successful capacity market. Indeed, the auction design includes numerous innovations that should be adopted in other regions. Market participants and ultimately the electricity consumers of New England will benefit from the chosen auction design.
18. With respect to price formation, the design adequately addresses market power concerns on both the buy side and sell side of the market. The market should enjoy robust price formation based on the cost of new entry. The design also includes the necessary safeguards in the event of either inadequate supply or insufficient competition.
19. With respect to performance incentives, the proposed settlement has the essential features of a good capacity market. I support the performance incentive approach adopted in settlement. It provides performance incentives that are adequate and stronger than the performance incentives seen in any other US electricity market.

AFFIDAVIT

Peter Cramton, being duly sworn, deposes and says: that he is the witness in the foregoing Affidavit and is familiar with its contents. He states further that the facts contained in said Affidavit are true to the best of his knowledge and belief.

Peter Cramton

Peter Cramton

Subscribed and sworn to before me,
This 5th day of March, 2006

Notary Public *Mary H. Coleman*

My Commission Expires 4.14.07