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BEFORE THE

ARIZONA CORPORATION COMMISSION

AZ CORP COMMISSION
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DIRECT TESTIMONY OF E. DOUGLAS MITCHELL

On Behalf of Sempra Energy Resources

Docket No. E-00000A-02-0051, et al.

E-00000A-02-0051
E-01345A-01-0822
E-00000A-01-0630
E-01933A-02-0069
~~**E-01933A-98-0471**~~

November 12, 2002

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is E. Douglas Mitchell, and my business address is 101 Ash Street, San Diego, CA 92101. I am a Regulatory Policy Manager at Sempra Energy Global Enterprises.

Q. WHAT IS YOUR EDUCATIONAL AND RELEVANT PROFESSIONAL BACKGROUND?

A. I received a Bachelor of Science degree in electrical engineering from the University of Florida in 1970 and a Masters of Engineering from the University of South Florida in 1974. In my current position, I am responsible for regulatory policy issues and coordination associated with the non-utility businesses of Sempra Energy. This includes representing Sempra Energy Resources in proceedings such as this one.

I previously worked for San Diego Gas & Electric Company ("SDG&E") for over twenty years, primarily in the Generation Planning Department. During my tenure at SDG&E, I conducted a number of competitive solicitations for a combination of short-range and longer-range power purchases extremely similar to the one now being considered by the Arizona Corporation Commission ("ACC") for implementation by Arizona Public Service ("APS") and Tucson Electric Power ("TEP").

I have previously testified before the California Public Utilities Commission in numerous proceedings, including solicitations associated with its Biennial Resource Plan Update, a State of California legislative committee on resource planning issues, the California Energy Commission on planning and policy issues, and the California Superior Court on appropriate resource selection methods.

Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. To encourage the ACC to immediately proceed with the adoption and implementation of the Staff's recommendations for a competitive procurement process designed to comply with the Commission's Decision No. 65154 in Track "A" of this proceeding. The current timing for this solicitation is excellent and the expected results should provide substantial rate benefits for the Standard Offer electricity customers in Arizona. Additionally, a proposed improvement to the solicitation process is offered to help assure the best possible results for the ratepayers.

II. SUMMARY

Q. WOULD YOU PLEASE SUMMARIZE YOUR DIRECT TESTIMONY?

A. The IOUs should immediately begin a comprehensive RFP solicitation for power purchases on the schedule presented in Staff's October 25, 2002 Report on Track B: Competitive Solicitation (page 29). As required by the Commission's Decision No. 65154, the amount of capacity acquired through this solicitation should be a minimum of each IOU's forecasted unmet need for at least the next three years. The maximum level of capacity should be limited only by economic considerations. In other words, the utilities should expand their proposed solicitations to include the competitive procurement of energy when it is available on the open market at a price lower than the utility's cost to generate its own power.

Q. WHAT WAS THE EFFECT OF THE SDG&E COMPETITIVE SOLICITATIONS ON THE ELECTRIC RATES OF SDG&E CUSTOMERS?

A. SDG&E began this series of power purchase solicitations n the early 1980s. Just prior to implementing these solicitations, SDG&E had the second highest electric rates in the nation. After nine years of these competitive solicitations, SDG&E enjoyed the lowest Investor-Owned Utility ("IOU") electric rates in the State of California for three years in a row. This low-cost position was achieved even though the other two California IOUs owned large, low-cost hydro facilities, while SDG&E did not.

Q. **HOW WAS SDG&E ABLE TO ACHIEVE SUCH SIGNIFICANT RATE BENEFITS FROM ITS COMPETITIVE SOLICITATIONS?**

A. These solicitations were conducted during a period that could best be described as a "buyers market". The process used to solicit interested sellers stimulated the marketplace and forced sellers to either provide very competitive prices or see their power plants sit idle.

Q. **DOES IT APPEAR THAT A "BUYERS MARKET" IS NOW AVAILABLE FOR ARIZONA UTILITIES?**

A. Yes, there are many indicators that suggest this is the case. One indicator is simply the number of interested merchant plant providers actively participating in this proceeding. Another indicator is that spot market clearing prices for electric products in Western markets have remained at very competitive levels for some time now. The competitive solicitations conducted this past month in California also reveal a strong interest by merchant power providers to serve load in the region. While the results of these solicitations are protected by confidentiality restrictions, it is known that Southern

California Edison ("SCE") is requesting approval by the California Public Utilities Commission of a number of pending contracts that were judged favorable. SDG&E also experienced a robust interest in their solicitation, and is also requesting approval for a number of pending contracts.

III. THE SOLICITATION PROCESS

Q. HOW SHOULD THE SOLICITATION PROCESS BE STRUCTURED?

A. The first two steps identified in the Staff Report appear to be appropriate and consistent with ensuring a viable and effective solicitation. These two steps are: (1) pre-solicitation, and (2) solicitation preparation. Staff's proposal for bid evaluation, however, does not go far enough in specifying what is needed to produce optimum results. However, modifying the evaluation process to produce optimum results would require a longer time for implementation of the solicitation than the proposed schedule allows.

Q. WHAT ADDITIONAL STEPS ARE NEEDED AND HOW MUCH TIME WOULD THEY ADD TO THE SCHEDULE?

A. The additional specification is needed in the "evaluate prices", Task ID number 23 on page 29 of Staff Report.

The one and only way to determine the value of an offer is to evaluate it within the context of the fully integrated generation operating system. This includes the dual considerations of: (1) providing reliable power, and (2) achieving the lowest cost possible. The only feasible way to evaluate the complex interactions between power opportunities associated with these bids is to simulate the entire electrical system using computer programs designed for this task. These programs can simulate hour-by-hour system load requirements, the operating characteristics of each of the generating units and power purchases, known operating procedures and requirements, as well as the cost and availability of economy energy purchases while simultaneously considering any transmission constraints associated with delivery of this power. If the utility is unable or unwilling to perform this analysis, there is a vendor(s) that can immediately provide this service and also provide the information needed to model the entire western grid from a recently updated database.

Q. **HOW CAN THE IOUS EFFICIENTLY PERFORM THIS ANALYSIS?**

A. After the proposals are received at the close of the solicitation period, the offers should be pre-screened and sorted into similar groups. (e.g., baseload offers in one group, dispatchable peaking resources in another, etc.) Within each group a rank ordering should be established from the best offers on down. When this grouping and ranking is complete, the better of the bids in each group (or more likely a combination of bids in each group) can be incrementally tested in combination with the existing generating units in such a way that the minimum reserve requirements are satisfied. This combination is referred to as a "scenario".

The offers obtained in this solicitation are likely to be plentiful, and will permit a number of combinations and permutations of the better bids to satisfy reserve requirements. When a reasonable number of combinations of bids are prepared, e.g., three or four scenarios, these scenarios should be simulated with the aid of a detailed production costing model to determine the scenario that produces the minimum total revenue requirements. When this single best scenario is determined, the additional considerations identified in the Risk Management Section (Section IV of this testimony) can be analyzed.

Q. **HOW MUCH TIME SHOULD BE ALLOCATED TO PERFORMING THESE DETAILED PRODUCTION COSTING SIMULATIONS?**

A. With a group of four or five professionals familiar with computer modeling and knowledge of the operational and planning needs of an electric utility, experience has shown that this task can be completed in approximately six weeks.

Q. CAN A REASONABLE SUBSTITUTE FOR THE DETAILED PRODUCTION COSTING SIMULATIONS BE MADE BY LIMITING THE RFP SOLICITATIONS TO SPECIFIC PRODUCTS THAT APPEAR TO BE NEEDED BASED UPON AN "UNMET NEED" ANALYSIS?

A. In my professional opinion, no. The goal of the RFP solicitation stated in the first paragraph of the Staff Report is to achieve cost savings for ratepayers. I believe this goal cannot be met without a complete and detailed examination of the complex interactions inherent in a generating system operating within an interconnected utility grid.

Limiting the solicitation only to some pre-determined "unmet need" exposes customers to potentially higher prices because it looks at procuring only what the utility is unable to provide physically, i.e., through its own generating units, without regard to the combination of utility and non-utility resources that yields the optimum results.

For example, while the utilities focus on the need for peaking-type resources in their expansion plans, it is nevertheless important to observe that bid proposals have the potential to replace some higher-priced generators in their current portfolio mix. A detailed review of these opportunities could uncover a baseload or mid-range proposal that provides net benefits to ratepayers.

Q. **WOULD YOU PLEASE PROVIDE AN EXAMPLE IN WHICH AN OUTCOME FROM AN "UNMET NEED" ANALYSIS WOULD LIKELY LEAD TO AN INCORRECT RESULT?**

A. Yes, one example would be the issues surrounding quantities and prices of economy energy deliveries. A proper analysis of these transfers is dependent on three factors: (1) knowledge of the system decremental cost of the receiving utility ("buyer"), (2) the quantity available and the offering price of the sending utility ("seller"), and (3) sufficient unused transmission transfer capacity must be available to accommodate the transaction. Lack of knowledge of any one of these components could lead to incorrect conclusions.

Q. **COULD AN INCORRECT CONCLUSION IN THIS AREA BE SIGNIFICANTLY DETRIMENTAL TO THE RATEPAYERS IN THE STATE?**

A. Yes. Given the stated intention of the two Arizona utilities to increase their reliance on the receipt of economy energy, indeed incorrect conclusions could be significantly detrimental. The numbers provided by APS in Mr. Ewen's testimony from Schedule PME-13 (and at the workshop on November 6, 2002) show that the company is projecting the dependence on economy energy to grow from 14% of total Standard Offer load in 2003 to 30% in 2013. At this same workshop, APS stated that the computer model used by the company could not capture the impact of transmission constraints in the simulation process. Therefore, APS appears to be counting on a source of energy for almost one-third of its needs, but does not know if this power can actually flow into the system.

Q. **DO YOU HAVE SIMILAR CONCERNS OVER RESTRICTING THE SOLICITATION TO ONLY THE THREE PROPOSED BASIC PRODUCTS?**

A. Yes, only three basic products (i.e., capacity only, capacity plus some minimum level of energy, and physical "call" options) were proposed for the solicitation, based upon the "unmet need" analysis. A more comprehensive analysis, one that considered insights about projected utility operations over the planning horizon, would show that many types of energy products should be considered.

Q. **BASED UPON YOUR EXPERIENCE, WHAT TYPES OF PRODUCTS SHOULD BE REQUESTED OF BIDDERS?**

A. There should be no restrictions on energy products, other than perhaps on minimum quantities. Attempts to place rigid requirements on bidders have the potential to simply limit the number of good offers that might otherwise be submitted. Experience also shows that bidders often ignore these proposed restrictions, and submit bids on their own terms and conditions. Solicitations that propose a contract that follows well-known industry protocols, such as the EEI Master Agreement or the WSPP Standard Contract will likely help remove any risk premium that might otherwise be placed in the bid price to compensate for uncertainty in this area.

IV. RISK MANAGEMENT

Q. **WHAT IS THE BEST WAY TO EVALUATE PRICE RISK UNCERTAINTY AND PRICE VOLATILITY?**

A. Setting specific risk tolerance levels on both price risk and price volatility is clearly the responsibility of the individual utilities, with guidance from their regulators. The Staff Report, for instances, offers the guidance that a solicitation process needs to be designed in such as way to ensure that "benefits occur instead of pitfalls." However, I would like to comment on the methods used to evaluate these risks, and on what utilities generally consider prudent.

The starting point for these evaluations is the lowest cost scenario obtained from evaluating the best combination of bids, referred to as the base case scenario. This is the scenario that is then subjected to additional risk scrutiny. A typical <u>price risk</u> analysis is simply the straightforward observation of the tenure of the resources in the portfolio. The optimum results produce a mix of resource commitments that are half long-term (five years or more) and the other half are a mix of shorter term (less than five years) and spot market purchases. Such a blend of resources will allow price level stability in times of high spot prices, and provide opportunities to reduce costs if spot market prices are lower.

A <u>price volatility</u> analysis is usually performed as a sensitivity evaluation to the base case scenario. Price inputs that are known to be volatile, e.g., natural gas prices, are tested over a range of potential price levels extremes. Evaluating the variances in total system costs over this range provides a basis to determine the sensitivity of the base case scenario to price volatility considerations. If the base case is deemed to be overly sensitive to a particular price-related attribute, it should be modified to alleviate this undesirable characteristic. Changes of this type should be made at the discretion of the utility, and allowing this leeway should be part of the bid selection process.

Q. GIVEN THIS METHOD OF RISK EVALUATION AND MITIGATION, WOULD A STRATEGY OF RELYING EXCLUSIVELY ON MARKET EXCHANGES SUCH AS THE ICE OR BLOOMBERG OFFER A REASONABLE SUBSTITUTE FOR AN RFP SOLICITATION?

A. No. Reliance on a market exchange would contribute toward both greater price sensitivity risk and greater exposure to price volatility. Neither of these outcomes is desirable. Market exchanges maintain liquid transaction opportunities in short-term energy products only. A total reliance on this short-term procurement method would therefore eliminate any stability associated with entering into longer-term resource commitments at known, pre-determined prices. If the Arizona utilities ascribe to a target portfolio of 50% longer-term resources, this method of acquiring resources will ultimately lead to inappropriate acquisitions.

The price of energy products in virtually all these exchanges is closely tied to the prevailing price of natural gas. Natural gas-fired power plants represent the vast majority of resources "on the margin" that provide offers to sell power in these markets. Greater exposure to natural gas price volatility is undesirable, especially when coupled with a reliance on economy energy that, as indicated in the utility's work papers, is <u>itself</u> tied to natural gas prices. The resulting "double whammy" exposure to gas prices, which are known to fluctuate, is not conducive to mitigating price volatility risk. In fact, such an approach is likely to lead to increased volatility and, ultimately, higher costs for consumers. An additional consideration about the use of exchanges is the lesson learned from the California experience. That lesson is that, when supplies become tight, sellers will seek and obtain whatever prices the market will allow. Despite some of these apparent drawbacks, exchanges clearly have an important place in the overall functioning of wholesale energy markets. Most utility planners, however, would not consider it prudent to rely entirely on exchanges for all generation expansion needs.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes it does.