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November 19, 2015

Mr. Gene Dodaro
The Comptroller General of the United States
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Dodaro:

Regional Transmission Operators (RTOs) and Independent System Operators (ISOs) manage the bulk power system throughout portions of 37 states. RTOs and ISOs were established pursuant to sections 202(a) and 205 of the Federal Power Act and subsequent rulemakings by Federal Energy Regulatory Commission (FERC), in particular Orders 888, 889, and 2000. In order to meet their obligation to maintain electric reliability, several RTO/ISOs have chosen to implement wholesale capacity auctions, commonly known as capacity markets. These markets are intended to incentivize the availability of sufficient capacity to meet demand at a future point in time. Participation in them may be voluntary or mandatory,¹ depending in part on the history of industry restructuring within the RTO/ISO's footprint.

In capacity markets, load-serving entities (LSEs), which provide electricity to consumers, pay an auction clearing price to electric generators for the generators' commitment to provide electricity when called upon. Depending on the RTO/ISO, capacity comprises between 3 percent and 20 percent of total wholesale prices. Capacity is the largest component of all-in wholesale electricity prices after the energy component (the short-term cost of actually generating the electricity).² Although LSEs make capacity payments to the RTO/ISO, these costs are ultimately passed along to end-use customers. Regardless of how RTO/ISOs design capacity markets, the markets remain subject to the just and reasonable standard under section 205 of the Federal Power Act.

Recent auction clearing prices in capacity markets administered by several RTO/ISOs have raised important questions. Price increases resulting from these auctions translate to billions of dollars in additional payments from customers to generators.³ Separately, baseload power

¹ For purposes of this inquiry, a mandatory capacity market is a bid-based RTO/ISO capacity market that restricts a load-serving entity's ability either to determine how much of its capacity needs to supply through that market or to ensure that its owned or contracted capacity resources count toward its capacity obligation.

² ISO-NE Internal Market Monitor's 2014 State of the Market Report; New York ISO's 2014 State of the Market Report; PJM's 2014 State of the Market Report.

³ Tim Puko, "Power Auction May Foreshadow Rise in Utility Bills, Energy Stocks," *Wall Street Journal*, August 23, 2015; Cynthia Dizikes, "New Power Rules Prompted by Polar Vortex May Hike Chicago-Area Electricity Bills,"

plants in these markets have faced retirement before the end of their nominal design life. Such retirements of in-service generation have led to questions about how market rules may be adversely affecting the economic viability of current units and future investment and reliability in organized markets.

Differences between the rules of each auction and on-going controversy about the basic efficacy of and most effective way to administer capacity markets warrant further inquiry. The Electric Reliability Council of Texas, the Southwest Power Pool, and the California ISO do not conduct capacity auctions. MISO and the New York ISO (NYISO) run auctions one year in advance while PJM and ISO-NE run auctions three years in advance. LSEs within MISO and most regions of NYISO may choose whether to rely on the RTOs' capacity auctions or to self-supply capacity resources.⁴ With defined and in practice limited exceptions, LSEs within PJM, ISO-NE, and parts of NYISO must accept auction clearing prices irrespective of whether their owned or contracted resources clear.

In order for Congress and the public to better understand the impacts of capacity markets on capacity resources, prices, and grid reliability, we request that you examine the following inter-related questions:

1. We are concerned about the relationship of the increments of new capacity cleared in an auction and the increments of new capacity actually installed. Two recent surveys suggest that only a small fraction of new capacity has been built in organized markets except under bilateral power purchase agreements or direct ownership by LSEs.⁵ Additionally, it is our understanding that except for one sub-region within PJM, capacity has never cleared above the "cost of new entry" in PJM or MISO. These observations prompt us to ask a central overarching question:

Since their establishment, how effectively have capacity markets influenced the construction, maintenance, or retirement of generation in order to ensure resource adequacy and reliability in a cost-effective manner?

2. Maintaining resource adequacy and reliability are essential requirements of any electric power system. As described above, RTO/ISOs have developed various approaches to

Chicago Tribune, July 28, 2015; Stephen Singer, "New England Power Plant Closings Pinch Supply," Associated Press, February 5, 2014.

⁴ The definition and scope of self-supply varies among the RTO/ISOs. In general, we understand "self-supply" to mean the ability for an LSE to meet resource adequacy obligations by relying wholly or partially on capacity resources it owns or contracts. In MISO, for example, LSEs can self-supply ("self-schedule" is the term used in the MISO tariff) to meet their capacity obligation (a "Planning Reserve Margin Requirement") in one of two ways. They can offer capacity resources (bid as "Zonal Resource Credits") into the relevant zonal auction ("Planning Resource Auction") at a zero price so that the resources will clear while also bidding to purchase the same amount of resources. Alternatively, they can opt out of the auction entirely by submitting a demonstration (a "Fixed Resource Adequacy Plan") that they have sufficient resources to cover all or a portion of their resource requirements. (MISO, FERC Electric Tariff, Module E-1, Sections 69A, 69A.7.8, 69A.9) As part of this inquiry, we look forward to a complete comparison and evaluation of how RTO/ISOs define self-supply.

⁵ "Power Plants Are Not Built On Spec: 2014 Update," American Public Power Association, October 2014; "Power Plants Are Not Built On Spec," American Public Power Association, March 2012.

maintaining reliability through capacity markets. In regions without organized wholesale markets, reliability criteria such as planning reserve margins are typically established by states or balancing authorities. In those regions, the costs of new capacity to meet reliability criteria must be approved through traditional cost-of-service rate regulation, usually through a state utility commission or a consumer-owned utility board.

- a. How do capacity costs borne by wholesale customers (including costs passed-through to end-use customers) compare among consumers subject to mandatory capacity markets, voluntary capacity markets, and traditional rate regulation?
 - b. Are there differences with respect to resource adequacy or reliability (historical, current, or projected) among regions covered by mandatory capacity markets, voluntary capacity markets, and traditional rate regulation?
 - c. Are there differences in the generation mix (including with respect to characteristics such as fuel diversity and firm versus intermittent service) among regions covered by mandatory capacity markets, voluntary capacity markets, and traditional rate regulation as a result of different market structures?
 - d. Are capacity market rules contributing materially to broad scale premature retirements of in-service baseload units?
3. The capacity markets in the three RTO/ISOs with mandatory markets have design differences. These differences range from treatment of non-generation resources such as demand response and energy efficiency to varying opportunities for LSEs to self-supply capacity.
- a. Please identify any inherent market design considerations that explain limitations on the ability of LSEs to self-supply in mandatory capacity markets in PJM, ISO-NE, and NYISO.
 - b. To what extent is the status of industry restructuring (with respect to generation ownership and rate regulation) a factor in limiting the ability of LSEs to self-supply within the states subject to mandatory capacity markets?
 - c. Based on capacity market outcomes in the various RTO/ISOs (both voluntary and mandatory markets), what appear to be best practices and market designs in terms of auction frequency, forward time periods (e.g., 1-year versus 3-year versus other periods), market power mitigation, and LSE self-supply options?
 - d. Are there any mechanisms within the RTO/ISOs to account for the degree to which capacity market revenues overlap with revenues from other market features also designed to ensure resource adequacy and reliability such as shortage pricing?

Thank you for your consideration of this request. We look forward to learning the results of your inquiry.

Sincerely,



Lisa Murkowski
United States Senator



Maria Cantwell
United States Senator