

Summary of Testimony of John E. Shelk, President and Chief Executive Officer
Electric Power Supply Association (EPSA)
Grid Reliability Challenges in a Shifting Energy Resource Landscape (May 9, 2013)

EPSA is the national trade association for competitive wholesale electricity suppliers. The competitive sector accounts for 40 percent of U.S. generating capacity. These suppliers are the primary sources of electricity for most of the states from Maine to Virginia, across to Illinois, and in Texas and California. EPSA members operate a fuel diverse fleet of power plants.

The competitive business model generally places the significant risks associated with power plant development and operation on investors. As the energy resource landscape continues to shift with advances in technology impacting both supply and demand, these risks are not borne by consumers in competitive markets as they are under the traditional cost-based utility model.

The nation ignores the inherent weakness of energy forecasts at its peril. Just in the past eight years we have witnessed the headlines that “King Coal is Back” then the “Nuclear Renaissance” followed by the “Renewables Revolution.” The “shale natural gas gale” will not be the last game changer. What’s next in cleaner coal, solar, smart grid, storage, modular nuclear reactors, natural gas technologies, electric vehicles, efficiency, distributed generation and demand-side management? The variables are numerous, the possibilities nearly endless and risks are great.

On electric/gas coordination, EPSA members, as large consumers of natural gas, have a major stake in robust natural gas supplies and a reliable delivery network because under the competitive model, power plants do not earn their primary source of revenue unless their plants run, which requires gas-fired plants to have reliable access to competitively-priced natural gas.

There are many ways by which natural gas-fired power plants procure fuel. One way is firm transmission on an interstate pipeline, but it is not the only way and it is not always the most cost-effective or operationally-feasible. Firm transportation on interstate pipelines should remain a business option, not something to be mandated. The electric/gas challenge varies by region and thus a regional approach is preferable to a top-down federal solution. The regional approach is working and FERC is to be commended for its attention to these issues in a thoughtful manner.

Demand-side resources are retail matters under the Federal Power Act. Demand Response as a resource has a role to play, but that role cannot come at the expense of reliability and the health of competitive wholesale markets. No amount of Demand Response can substitute for the megawatts that will be needed to keep the grid reliable. FERC went beyond its statutory authority in Order No. 745 now pending review in federal court. EPA acted unwisely in exempting diesel back-up generators being paid as Demand Response from Clean Air Act rules. Demand Response threatens to undermine the reliability of capacity markets without reforms.

The advantage of competitive markets is that as the resource landscape shifts, consumers are not tethered to obsolete, unnecessary, more expensive means of supplying and using electricity. Regulation, however, needs to keep up. Flexible resources, such as natural gas plants, must be compensated for providing electricity when intermittent resources do not. Policymakers should avoid interfering in ways that distort market prices and undermine market revenue streams.

Testimony of John E. Shelk
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Electric Power Supply Association

Before the U.S. House of Representatives
Committee on Energy and Commerce
Subcommittee on Energy and Power

American Energy Security and Innovation: Grid Reliability
Challenges in a Shifting Energy Resource Landscape

May 9, 2013

Chairman Whitfield, Ranking Member Rush and Members of the Subcommittee, thank you for the opportunity to participate in today's hearing on grid reliability challenges in a shifting energy resource landscape.

Introduction to EPSA and Competitive Electricity Markets

The Electric Power Supply Association (EPSA) is the national trade association for competitive wholesale electricity suppliers, including power generators and marketers. EPSA members include both independent power producers and the wholesale supply businesses of utility holding companies. EPSA members supply electricity nationwide with an emphasis on the two-thirds of the country located within a regional transmission organization or independent system operator (so-called “organized markets”). EPSA members and other competitive suppliers account for 40 percent of the installed electric generating capacity in the United States. These suppliers are the primary sources of electricity for most of Maine to Virginia, across to Illinois, and in Texas and California.

EPSA members individually and collectively operate a fuel diverse and technologically innovative fleet of power plants. EPSA members are the largest or among the largest operators of natural gas, nuclear, geothermal and solar power plants, own substantial lower-emission coal assets, and are major wind developers.

EPSA's competitive electricity companies are implementing the vision that this Committee and its Senate counterpart started with the "exempt wholesale generator" provision of the Energy Policy Act of 1992. That set in motion what became a paradigm shift in power generation business models and the regulation of wholesale markets. Competitive suppliers do not have a cost-based regulatory recovery mechanism as is the case with traditional cost-of-service utilities with monopoly service territories. Competitive suppliers must earn market revenues within detailed rules set by the Federal Energy Regulatory Commission.

Competitive Electricity Enhances Flexibility, Adaptability and Innovation

The competitive business model shifts the considerable risks of power plant development and operation from consumers to investors. This means that as the energy resource landscape continues to shift, often in dramatic ways, the considerable risks associated with how much supply and of what type should meet what amount of expected demand through various means as technologies advance (supply and demand resources) are not borne by consumers as they are under the traditional utility regulatory model.

The Committee on Energy and Commerce is wise to be focusing on the grid reliability challenges in a shifting energy resource landscape. Today policymakers and market participants understandably focus on the so-called “shale gale” stemming from prolific new supplies of natural gas. This Committee can take credit for having the foresight in the 1980’s to repeal the price controls on natural gas that skewed the market toward higher priced sources of natural gas while also repealing the provisions of the Fuel Use Act of 1978 that essentially prohibited the use of natural gas in power generation. Had this Committee not taken those actions decades ago, the shale natural gas revolution would not be occurring. Yet before it blossomed in the past several years, experts were convinced that the United States would become a net importer of natural gas, not a potential exporter.

The nation ignores this lesson of the inherent weakness of energy forecasts at its peril. Just in the past eight years I have been at EPSA, we have witnessed the headlines that “King Coal is Back” then the “Nuclear Renaissance” followed by the “Renewables Revolution” and now the debate is whether natural gas-fired power generation is a bridge to the future or the future destination itself. What we do know is that the “shale gale” will not be the last game changer. What’s next in cleaner coal, solar, smart grid, storage, modular nuclear reactors, natural gas technologies, electric vehicles, efficiency, distributed generation and demand side management? The variables are numerous and the possibilities are nearly endless.

Against this backdrop, EPSA's testimony focuses on three specific challenges: (1) electric/gas coordination; (2) declining demand and increasing Demand Response; and (3) the economic integrity of power market rules.

Electric/Gas Coordination Is Best Handled On A Regional Basis

On electric/gas coordination, EPSA viewed with interest the Subcommittee's March 19 hearing focused on this important topic. EPSA members, as large consumers of natural gas, have a major stake in robust natural gas supplies and a reliable natural gas delivery network. EPSA members with natural gas assets have as much interest as anyone in making sure natural gas supplies can be delivered to their power plants when needed to generate electricity. This is so because under the competitive business model, power plants do not earn their primary source of revenues (sales of electricity) unless the power plants run, which requires reliable access to competitively-priced natural gas.

There are many ways by which gas-fired power plants procure fuel to reliably generate electricity day in and day out. One way is to purchase firm transmission on an interstate pipeline, but it is not the only way and it is not always the most cost-effective or operationally-feasible. Furthermore, some plants are not served by interstate pipelines but instead get fuel from local natural gas distribution companies. Thus, firm transportation on interstate pipelines is and should remain a business option for power plants, not something to be mandated.

Before listing the various other ways that competitive natural gas power plants cost-effectively manage natural gas supplies, it is important to understand the nature of a power plant's demand for natural gas. The timing and volume of natural gas demand to generate electricity is highly uncertain and variable; natural gas for power generation is not consumed ratably or predictably. Demand for electricity changes by the second, hour, day, month, season, and year, as well as across decades. In addition, natural gas power plants are major but not the only sources of electricity in a given state or region; thus they compete with other fuels.

To supply consumers with the least-cost resource mix, grid operators use economic dispatch to decide which plants operate to meet demand. Power plants are generally dispatched in short time increments on a least cost basis within transmission constraints. These plants receive revenues for the sale of electricity from the day-ahead and real-time energy markets administered by RTOs/ISOs. Many of these regions serve states that elected to provide their consumers with the benefits of customer choice through retail competition based largely on annual contracts. Thus, there are timing and quantity mismatches between the nature of electricity, the design of wholesale and retail electricity markets, and the desire of at least some pipelines to push the risk of building new pipeline capacity on which they would receive a regulated rate of return on to power generators and their customers via requiring multi-decade firm natural gas transportation contracts.

To best serve consumers, power plants have many options to tailor how and when they obtain fuel in ways that reduce the cost of generating electricity reliably. Power plants can negotiate packaged services from producers and marketers that include firm or interruptible gas transportation that the producer or marketer has contracted for with an interstate pipeline. Power plants can enter into interruptible pipeline contracts directly or they can use the secondary release natural gas transportation market which is a win-win for electricity and natural gas consumers. In this manner, a holder of firm gas transportation that has capacity it will not be using (such as a local natural gas distribution company) can re-sell it to a power plant. This offsets the local gas utility's costs and uses the gas delivery system more efficiently.

Thankfully, these various commercial arrangements work exceptionally well virtually all of the time even under stressful conditions, such as particularly cold weather in New England. This observation is not to diminish at all the importance of making sure that electric/gas coordination issues are addressed to prevent the lack of natural gas deliverability from causing a shortage of electricity. Rather, it is to stress that it is important to go about addressing these electric/gas challenges in a manner consistent with competitive wholesale and retail electricity markets that federal and state policymakers have chosen to adopt, and for good reason in terms of delivering affordable electricity at lower risk to consumers.

The electric/gas coordination challenge varies by region and therefore a regional, stakeholder-driven approach with fair and transparent collaboration and communication is preferable to a “one-size-fits-all” top-down federal solution. A regional approach can take into account multiple factors that vary widely across regions including (1) the level of gas storage and shale gas development, (2) the fuel-resource mix, (3) wholesale and retail power market design, and (4) the level of development of interstate natural gas pipelines, among numerous other factors.

The regional approach is working and FERC is to be commended for its attention to these issues in a thoughtful manner. As you learned in the earlier hearing, FERC held a series of regional conferences on electric/gas issues last year with follow-up technical conferences on specific issues this year. Various electric and natural gas trade associations have been working on these issues even longer and we continue to do so. In New England, ISO New England is engaged in a formal effort with stakeholders to examine and address these issues. EPSA’s regional partner, the New England Power Generators Association (NEPGA), co-chairs the regional “focus group” on this subject. FERC recently approved new scheduling times for ISO New England that will better align when in the prior day power plants are notified to operate to provide more time to arrange for natural gas. ISO New England would benefit from allowing generators to update their power bids as natural gas costs change during the day, particularly during winter months.

In addition, New England states are encouraging a conversion from home heating oil to natural gas for economic and environmental reasons. This means that local natural gas distribution companies may have a larger role to play in contracting for the build out of the regional natural gas delivery infrastructure.

Demand Response Poses Reliability Challenges That Need Attention

The second set of challenges is on the demand side, including the extent to which Demand Response is not being regulated consistent with grid reliability.

While policymakers and market participants tend to focus on and indeed tussle over which supply source of electricity is preferable, the changing landscape on the demand side deserves as much if not more Congressional attention. Recent reports from the Energy Information Administration, regional grid operators, private forecasters, and power sector financial analysts all confirm that the nation is likely facing a relatively flat demand for electricity in coming decades even as the economy recovers (with some pockets of state and regional load growth).

Expectations of lower power demand growth are a marked shift from prior forecasts that until recently projected that demand would pick up. The reasons are structural and focus on efficiency standards, energy management options, and the changing mix of the nation's economy to less electricity-intensive sectors. The consequences are profound. For competitive suppliers there will be less demand to serve from which to earn market revenues to recover the costs of long-term

investments. For traditional rate-base utilities, flat demand at a time of rising costs for generation, transmission and distribution means more frequent rate cases seeking ever higher rates, which will start making competitive wholesale and retail supply options more attractive to policymakers and consumers in those states.

The other component of this second challenge is Demand Response, which involves some consumers paying others to use less electricity (so-called "negawatts"). When this Committee and the Congress acted on this subject in Section 1252 of the Energy Policy Act of 2005 and Section 529 of the Energy Independence and Security Act of 2007, Congress was careful to only direct the Department of Energy and the Federal Energy Regulatory Commission to work with the States. This is because demand side resources are inherently retail matters that the Federal Power Act since its enactment decades ago has reserved to the States. Congress specifically limited the federal role to preparation of a National Action Plan and similar technical measures to pursue how customers could be properly incented to reduce demand below what they would otherwise consume.

Demand Response as an energy resource has a role to play in meeting our nation's electricity needs, but that role cannot come at the expense of grid reliability and the long-term health of competitive wholesale power markets. No amount of Demand Response can substitute for the substantial supplies of actual megawatts that will be needed to keep the grid reliably serving consumers.

Unfortunately, FERC went well beyond its statutory authority in Order No. 745 (2011) that overpays Demand Response in organized wholesale energy markets as if it were actual power generation without having to meet the same regulatory requirements. EPSA, American Public Power Association, Edison Electric Institute, and National Rural Electric Cooperative Association filed a joint petition for review of Order No. 745 now pending before the U.S. Court of Appeals for the District of Columbia Circuit (briefs filed, awaiting oral argument).

The Committee should also be aware that this past January, U.S. EPA issued a final rule setting National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE NESHAPS). Included in that rule are provisions exempting back-up diesel generators from Clean Air Act requirements applicable to other generators. The practical effect in the organized power markets is to allow for-profit, third-party aggregation firms to assemble back-up diesel generators as virtual power plants to masquerade as “Demand Response.” This diverts consumer dollars away from cleaner sources of power generation and Demand Response that actually reduces rather than merely shifts demand. A long list of environmental organizations, public health advocates, state regulators, power generators, and trade associations including EPSA is challenging this rule in the U.S. Court of Appeals for the District of Columbia Circuit and before EPA on reconsideration.

Demand Response also threatens to undermine the reliability of the capacity markets in key regions unless reforms are implemented. In PJM, the Reliability Pricing Model (RPM) procures capacity three years ahead to assure future reliability. The volume of Demand Response, paid for by consumers via RPM, has skyrocketed in recent years to over one-half the reserve margin, including Demand Response that is limited to only 60 hours per year or seasonally. This has prompted serious recent warnings from Monitoring Analytics, PJM's independent market monitor, about the potential adverse impact on reliability (*Analysis of Replacement Capacity for RPM Commitments* issued December 12, 2012 and the *State of the Markets Report* issued March 14, 2013). This tracks similar concerns in the North American Electric Reliability Corporation's *2012 Long-Term Reliability Assessment* (November 2012). California and Texas are looking to rely more on Demand Response and should heed the lessons painfully learned in PJM and elsewhere about how to regulate it to be a reliable and comparable resource.

Generators must meet numerous preconditions to bid in capacity auctions with specific long-term assets. Unfortunately, on procedural grounds FERC recently rejected PJM's attempt to strengthen the requirements for Demand Resource to assure reliability in time for this month's auction to procure capacity for the 2016/17 delivery year. To its credit, FERC did act recently to improve testing to address some but not all concerns with Limited Demand Response.

Proper Market Design, Rules and Practices Are Critical to Reliability

The third challenge to grid reliability takes this discussion back to where the testimony started. It is often said that the U.S. has a “hybrid” electricity system, as if there are only two business models for generating electricity (competitive and monopoly) and two corresponding regulatory regimes. In fact, states and regions fall in many places along a continuum between cost-based regulation and markets.

The shifting resource landscape, both as to supply and demand components, affects all regions, states and types of electricity providers. The advantage of competitive wholesale and retail markets is that, as the energy resource landscape shifts, often disrupting assumptions, consumers are not tethered to what become obsolete, unnecessary, more expensive means of supplying and using electricity.

Regulation, however, needs to keep up. For example, the growth of intermittent resources such as wind and solar argues for large regional markets that can more reliably manage resources across a wider footprint. It means that flexible resources, such as natural gas plants, must be fully compensated for standing by and providing electricity when intermittent resources do not. It also means that while percentages may change among resource types, the work horses of coal and nuclear will continue to play important roles in maintaining a reliable grid.

Finally, for competition to work, policymakers should avoid interfering in power markets in ways that distort market prices and undermine market revenue streams.

Conclusion

The Electric Power Supply Association greatly appreciates this opportunity to participate in today's hearing and in the Committee's future deliberations on these and other electricity issues.

The three challenges addressed in today's testimony are among many that policymakers, market participants, consumers, and other stakeholders must successfully meet. Electricity is correctly described as the life-blood of the modern economy and essential to deploying the technological advances that innovation has made possible. These advances make our lives, economies and environment better. It is clear that achieving the full potential in this regard requires affordable, reliable, environmentally-responsible supplies of electricity and the efficient use of these important sources of energy.

EPSA members are proud of the substantial role they play as major providers of electricity across the country on a competitive basis, as thoughtful leaders in public policy debates, and as innovators investing private capital at market risk to improve the nation's electricity supply system to maintain grid reliability while achieving broader public policy objectives. I look forward to the testimony of the other witnesses on today's panel and to the Subcommittee's questions on these important topics.