

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

Grid Reliability and Resilience Pricing

Docket No. RM18-1-000

**Reply Comments of the Institute for Policy Integrity at New York University School
of Law on Department of Energy Proposal for Final Commission Action**

Pursuant to the Notice Inviting Comments issued by the Federal Energy Regulatory Commission (“FERC” or “the Commission”) on October 2, 2017,¹ the Institute for Policy Integrity at New York University School of Law² (“Policy Integrity”) respectfully submits the following reply to the comments submitted by parties on the proposed rule for final action (“Proposed Rule”),³ issued by the Department of Energy (“DOE”) pursuant to section 403 of the Department of Energy Organization Act.⁴

Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in fields of administrative law, economics, and public policy. Policy Integrity submitted initial comments in this proceeding on October 23, 2017.⁵

Voluminous comments have been submitted by a diverse group of parties. Policy Integrity’s reply comments focus on the following issues:

1. Commenters have not provided support for the Proposed Rule.
2. The 2017 IHS Markit report (“IHS Report”),⁶ a primary source cited by a number of commenters as support for the policy put forth in the Proposed Rule, lacks the framework to provide support for the need for resilience pricing, and suffers from a number of methodological flaws.
3. The Commission should reject comments seeking to undermine state environmental policy.

¹ *Grid Reliability and Resilience Pricing*, Notice Inviting Comments, Docket No. 18-1-000 (Oct. 2, 2017).

² No part of this document purports to present New York University School of Law’s views, if any.

³ *Grid Reliability and Resilience Pricing Rule*, Notice of Proposed Rulemaking, 82 Fed. Reg. 46940 (Oct. 10, 2017) [hereinafter Proposed Rule].

⁴ 42 U.S.C. § 7173.

⁵ *Comments of the Institute for Policy Integrity at New York University School of Law on Department of Energy Proposal for Final Commission Action*, Docket No. 18-1-000 (filed Oct. 23, 2017) [hereinafter Policy Integrity Comments].

⁶ LAWRENCE MAKOVICH & JAMES RICHARDS, IHS MARKIT, ENSURING RESILIENT AND EFFICIENT ELECTRICITY GENERATION (2017) [hereinafter IHS Report], available at <https://www.ihs.com/Info/0917/electricity-generation-special-report.html>.

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I. Comments Have Not Provided Support for the Proposed Rule.

As we explained in our initial comments, in order to pursue the approach in the Proposed Rule, the Commission must find that current Independent System Operators and Regional Transmission Organizations (“ISO/RTO”) tariffs are unjust and unreasonable with respect to grid resilience and that cost-of-service payment to generators with 90 days of on-site fuel is a just and reasonable remedy.⁷ To properly support that approach, the Commission would need to define “resilience,” affirmatively determine that the current tariffs are undervaluing and underproviding “resilience,” find that a 90-day on-site fuel supply is critical for enhancing this attribute, and find that the ISO/RTO actions that are already underway are not sufficient to address fuel assurance.⁸ The comments that have been submitted to FERC do not provide a record of support for any of these findings.⁹

Several commenters submitted comments in support of the Proposed Rule, effectively arguing that because current ISO/RTO tariffs are not providing enough revenues to keep specific units open, those tariffs are therefore unjust and unreasonable.¹⁰ But this misunderstands the Commission’s role. It is not the Commission’s role under the Federal Power Act to ensure that every unit has enough revenue to continue to operate in perpetuity.¹¹ Rather, ISO/RTO markets are explicitly constructed to ensure that price signals lead to socially efficient entry and exit of generation resources.¹² Currently, there is no evidence to show that ISO/RTO markets are failing to provide the proper price signals for socially efficient entry and exit of generators. And in order to move forward with any requirement that ISOs/RTOs change their tariffs in the name of grid

⁷ Policy Integrity Comments at 36-41; *See also* 5 U.S.C. § 706(2)(B); *Emera Maine v. Fed. Energy Regulatory Comm’n*, 854 F. 3d 9, 24 (D.C. Cir. 2017) (discussing the Commission’s “dual burden” when acting under section 206).

⁸ Policy Integrity Comments at 7-22; *see also* 16 USC § 824e(a).

⁹ *National Fuel Gas Supply Corp. v. FERC*, 468 F. 3d 831 (D.C. Cir. 2006) (vacating Order No. 2004 because FERC purported to rely on record evidence when justifying changes to the Standards of Conduct to account for abuse between pipelines and non-marketing affiliates but in fact “provided no evidence of a real problem” such as a “single example of abuse by non-marketing affiliates”).

¹⁰ *See e.g. Motion to Intervene and Comments of Peabody Energy Corporation*, Docket No. RM18-1-000 at 4-7 (filed Oct. 23, 2017) [hereinafter Peabody Comments].

¹¹ *Bridgeport Energy, LLC*, 113 FERC ¶ 61311 at P 29 (Dec. 22, 2005) (“The Commission has no obligation in a competitive marketplace to guarantee Bridgeport its full traditional cost-of-service. Rather, in a competitive market, the Commission is responsible only for assuring that Bridgeport is provided the opportunity to recover its costs”).

¹² *New York State Pub. Serv. Comm’n*, 158 FERC ¶ 61137 (Feb. 3, 2017) (Commissioner Bay, concurring) (criticizing minimum offer price rules for undermining price signals for efficient entry and exist in light of state policy).

resilience, FERC must first demonstrate that the retirements under current tariffs are indeed socially inefficient because they undervalue grid resilience.¹³

Commenters have also listed a grab-bag of attributes that the “fuel-secure” generators provide to justify the rule, including the historic operation of units as “baseload” generation,¹⁴ the contribution of coal and nuclear to maintaining or expanding fuel diversity,¹⁵ the mitigation of pipeline disruption risks due to on-site fuel,¹⁶ and vague invocations of “grid failure,”¹⁷ “national security”¹⁸ or fuel cost spikes.¹⁹ But while these *may* be attributes of some “fuel-secure” generators, there is no support for any finding that they are critical attributes of *the electric grid* generally or of *resilience* in particular, as explained in our initial comments.²⁰ Nor is there support for a finding that the markets underprovide any of those attributes. Unless the Commission can affirmatively demonstrate that these attributes of generators are critical aspects of grid resilience, that they are not being sufficiently provided under current market rules, and that this is resulting in unjust and unreasonable rates, any reliance on these attributes to justify a mandatory tariff change would be unsupported by substantial evidence, as required for taking action under section 206 of the Federal Power Act.²¹

Another problem is that commenters have provided no principled way of determining which resources should get cost-of-service regulation. The grid faces countless types of low-

¹³ See *Emera Maine*, 854 F.3d at 21 (“Only after having made the determination that the utility’s existing rate fails [the just and reasonable] test may FERC exercise its section 206 authority to impose a new rate”).

¹⁴ *Comments of Tri-State Generation and Transmission Association Inc. in Support of the Proposed Resiliency Rule*, at 5, Docket No. 18-1-000 (Oct. 23, 2017).

¹⁵ See generally Peabody Comments at 11-14.

¹⁶ See, e.g., *Comments of the American Coalition for Clean Coal Electricity and National Mining Association in Support of the Department of Energy’s Grid Reliability and Resilience Pricing Rule*, Docket No. RM18-1-000 at 20-22 (filed Oct. 23, 2017) [hereinafter ACCCE Comments].

¹⁷ *Comments of FirstEnergy Service Company et al. In Support of the Grid Reliability and Resilience Pricing Notice of Proposed Rulemaking*, Docket No. RM18-1-000 at 32 (filed Oct. 23, 2017) [hereinafter FirstEnergy Comments] (“Ultimately, closures of nuclear and coal-fired generators will place the electric grid at risk of failure—if that risk does not exist already”).

¹⁸ *Comments of the PSEG Companies*, Docket No. RM18-1-000 at 3 (filed Oct. 23, 2017) [hereinafter PSEG Comments] (“the premature retirement of nuclear units threatens critical national security interests associated with our military capabilities and with the avoidance of nuclear weapons proliferation”).

¹⁹ *Comments of Murray Energy Corporation in Support of Proposed Rule*, Docket No. RM18-1-000 at 3 (filed Oct. 23, 2017) [hereinafter Murray Energy Comments] (“Furthermore, baseload coal and nuclear plants . . . are generally not exposed to spikes in the cost of fuel”).

²⁰ Policy Integrity Comments at 13-22.

²¹ *Florida Gas Transmission Co. v. FERC*, 604 F.3d 636, 641 (D.C. Cir. 2010) (prohibiting Commission action based solely on “speculation, conjecture, divination, or anything short of factual findings based on substantial evidence”).

probability, high-impact disruptive events. For some events, on-site fuel supply might be important; for other events (e.g. freezing²² or flooding²³ that make on-site coal piles unusable), it might be a liability. For some events, large central station power could be an asset, for other events (e.g., critical transmission line disruptions²⁴ or an earthquake²⁵), it could be a liability. If the Commission does not consider a range of (potentially countervailing) resilience attributes; quantify the extent to which a generation resource could provide or undermine each attribute; and place a specific *value* on each attribute (administratively or through the market), the Commission could potentially justify cost-of-service rates for any and all resources in perpetuity. But, to do so would clearly upend Commission precedent holding that cost-of-service rates should be used only when absolutely necessary,²⁶ and even then, only on a time-limited basis.²⁷ Alternatively, regulators will be left to guess which resources deserve to be retained in the name of the amorphous concept of “grid resilience.” Such an approach to rate-setting is arbitrary²⁸ and unduly discriminatory or preferential.²⁹

II. The IHS Report Does Not Support the Proposed Rule.

Commenters have claimed that the IHS Markit Report supports the Proposed Rule.³⁰ But the report’s conclusions rest on a series of unreasonable assumptions, internal contradictions, and a flawed methodology. So, it does not provide support for the Proposed Rule.

²² N. AMER. ELEC. RELIABILITY CORP., POLAR VORTEX REVIEW at 3 (2014), http://www.nerc.com/pa/rrm/January%202014%20Polar%20Vortex%20Review/Polar_Vortex_Review_29_Sept_2014_Final.pdf.

²³ Mark Watson, *Harvey’s Rain Caused Coal-to-Gas Switching: NRG Energy*, S&P GLOBAL PLATTS (Sept. 27, 2017), <https://www.platts.com/latest-news/electric-power/houston/harveys-rain-caused-coal-to-gas-switching-nrg-21081527>.

²⁴ U.S.-CANADA POWER SYSTEM OUTAGE TASK FORCE, FINAL REPORT ON THE AUGUST 14, 2003 BLACKOUT IN THE UNITED STATES AND CANADA: CAUSES AND RECOMMENDATIONS 111 (2004) (describing the response of nuclear generators to the 2003 transmission line failure that caused a large blackout in the northeast).

²⁵ Nuclear Regulatory Commission, *North Anna Nuclear Power Plant Seismic Event* (Sept. 1, 2011) available at <https://www.nrc.gov/docs/ML1124/ML112420551.pdf>.

²⁶ *PJM Interconnection, LLC*, 110 FERC ¶ 61,053 at P 114 (2005) (“a transparent market process is preferable to cost-of-service rates that can cause high uplift payments [O]ur policy on reliability compensation will be to rely on markets and proper market design, and to use non-market solutions only as a last resort”)

²⁷ *New York Indep. Sys. Operator, Inc.*, 150 FERC ¶ 61116 at P 16(2015) (“RMR filings should be made only to temporarily address the need to retain certain generation until more permanent solutions are in place”) (emphasis added).

²⁸ See 5 U.S.C. § 706(2)(B).

²⁹ 16 U.S.C. § 824e(a).

³⁰ PSEG Comments, Affidavit of Dr. Lawrence J. Makovich at 14-17; *Rulemaking Comments of the Nuclear Energy Institute*, Docket No. RM18-1-000 at 21 (filed Oct. 23, 2017) [hereinafter NEI Comments]; FirstEnergy Comments

A. The IHS Report Does Not Address the Problem the Proposed Rule Claims It Is Trying to Solve.

As we discussed in detail in our initial comments, the resilience of a system is determined by its ability to resist high-impact, low-probability external shocks, adapt to changing conditions when such shocks happen, and recover from those shocks.³¹ To be able to determine the value of resilience to society or to understand the effects of current policies on grid resilience, a study must first define and quantify resilience using a reliable metric that takes the various dimensions of resilience into account, and then analyze how different policies might affect this metric.

Despite the claims of some commenters,³² the IHS Report does not provide this analysis. First, the IHS Report does not define or quantify a “resilience” attribute and it does not attempt to measure the true value of such an attribute. In fact, the report confounds resilience and reliability in several places.³³

Second, the IHS Report does not address whether current tariffs underprovide resilience or attempt to understand whether, and by how much the Proposed Rule improves resilience. Lacking such foundation, the study falls short of providing the necessary framework to be considered as support for the Proposed Rule.

Third, the scenarios that the IHS Report evaluates are not connected to the specific remedy in the Proposed Rule. The IHS Report does not evaluate a cost-of-service case to determine the costs and benefits of paying certain resources above market rates. Unlike the Proposed Rule, the IHS analysis is not limited to ISO/RTO markets with a capacity market. The analysis does not evaluate resources with a 90 day on-site fuel supply or attempt to evaluate the costs and benefits of different quantities of on-site fuel.

Instead of addressing the issue of resilience, the report evaluates the effects of “fuel diversity” on consumers and the U.S. economy by comparing the *costs* of “actual industry

at 30-31, 59; *Peabody Comments*; ACCCE Comments at 41-42; *Comments of American Coal Council*, Docket No. RM18-1-000 at 5-6 (filed Oct. 23, 2017) [hereinafter ACC Comments]; Murray Energy Comments at 3, 7, 13-15, 33.

³¹ Policy Integrity Initial Comments at 7.

³² ACCCE Comments at 40-41; PSEG Comments at 15 (“Further, [p]reventing the erosion in reliability associated with a less resilient electric supply portfolio mitigates an additional cost of \$75 billion per hour associated with more frequent power supply outages”).

³³ See IHS Report at 8 (referring to generating resources providing “security of supply” in the context of “security-constrained [economic] dispatch,” which is a process designed to meet electricity demand at the lowest cost based on the operational and *reliability* limitations); *id.* at 19 -20 (using monetary values that estimate *reliability* to estimate consumers’ willingness to pay for resilient power supply).

performance in recent years” with a hypothetical “less efficient diversity” portfolio case.³⁴ But this does not help analyze the Proposed Rule for several reasons.

The IHS Report compares consumers’ surplus under two scenarios based solely on the difference of electricity *prices* in each scenario under normal operational conditions.³⁵ This is not helpful because consumer welfare loss of the “less efficient diversity” portfolio case is the consequence of *price* differences resulting from the cost differential between the two scenarios, not from a difference in *resilience*. Because the electricity price under the report’s “less efficient diversity” portfolio case would be higher simply based on the assumptions of the report about the generation mix and corresponding costs, electricity consumption would be lower; therefore, the consumers’ surplus decreases. But the report provides no reason to connect this difference in consumers’ surplus to resilience.³⁶

Without looking at the true *resilience* differences between the two portfolios, the analysis lacks the ability to provide any insight into the relevant differences of these portfolios *with respect to resilience*. Therefore, even if any of the other flaws of the study could be overlooked, the IHS Report’s conclusions about the *consumer net benefits* of a particular hypothetical *fuel diversity* scenario do not support a conclusion that existing tariffs are unjust or unreasonable on the basis that they fail to provide *fuel secure generation or resilience*.

The report also rests on a conclusory assertion that the chosen “less efficient diversity” portfolio case is not resilient based on an arbitrary assumption that a less fuel diverse portfolio is less resilient. Similarly, it claims, without proof, that a “maximum diversity” portfolio with equal generation shares of many technologies is not resilient either.³⁷ Despite some commenters’ invocation of “common sense,”³⁸ “fuel diversity” as a generic quality is not at all connected to the Proposed Rule’s definition of the “problem” it is trying to solve: grid resilience. Nonetheless, the report simply assumes that only a predetermined generation mix is resilient. But starting with such a predetermined mix in mind, picking an arbitrary mix that is costlier by assumption for

³⁴ *Id.* at 42.

³⁵ *See id.* at 17 (figure 8 and accompanying text comparing the “consumer net benefit” of scenarios based solely on the calculation that the “less efficient diversity portfolio case” would result in a 50% retail price increase).

³⁶ *Id.* at 16-17 (“But the implication is clear—maximizing US consumer electricity consumption net benefits requires reliably supplying consumers with the electricity that they want, when they want it, and at the lowest cost, *including the cost of ensuring resilient power supply.*”) (emphasis added).

³⁷ *Id.* at 7.

³⁸ NEI Comments at 21.

comparison, and claiming that the analysis show that consumers are better off with the former – cheaper – mix is dishonest analysis. The IHS report claims to “quantif[y] what is at stake if nothing is done to arrest the erosion in the cost-effectiveness, resilience, and reliability of the current U.S. power supply mix.”³⁹ But the report is not an evaluation of “fuel secure” generation or its value for resilience.

B. The IHS Report Is Riddled with Methodological Flaws.

The IHS Report also contains a number of methodological flaws, which render it completely unreliable.

1. The IHS Report Is Based on an Arbitrary and Unreasonable “Counterfactual” Generation Mix.

An economic analysis that validly measures the value of resilience to consumers is one that has a reasonable counterfactual scenario that has a verifiably different level of resilience than the baseline scenario. With an appropriate counterfactual, a comparison of consumers’ willingness to pay in these different scenarios, controlling for any other difference, could provide insight into how consumers value resilience. The IHS report, on the other hand, *assumes* that one mix is cheaper and resilient and the other one more expensive and less resilient, and then circularly concludes that consumers would be hurt by paying more for the supposedly less resilient mix.

While the IHS Report does not clearly state the scenarios it is comparing, it appears that the resource mix of the “less efficient diversity portfolio case” includes: *no* coal, nuclear, or oil units; a 20% decrease in hydroelectric capacity; an increase from 7% to 21% from solar and wind resources; and remaining generation supplied by natural gas-fired resources.⁴⁰ The IHS Report provides no rational explanation for why this portfolio is chosen, nor does it explain why (and by how much) it considers this portfolio less resilient. It makes little methodological sense to claim

³⁹ IHS Report at 5.

⁴⁰ *See id.* at 4 (“Such a case involves no meaningful contributions from coal or nuclear resources, a smaller contribution from hydroelectric resources, and a tripling of the current 7% contributions from intermittent resources, with the remaining majority of generation coming from natural gas-fired resources”); *id.* at 36 (“The potential exists for current trends to lead to a less diverse supply portfolio made up of no nuclear, coal, or oil generating resources and 20% less hydro capacity, with the rest of generation made up of wind and solar resources integrated with natural gas-fired generating technologies in proportions reflecting the current mix of these technologies and fuel sources in the new power supply pipeline”). Calculations based on the vague statements and the EIA data on current trends lead to about 73% natural gas generation in the “less efficient diverse portfolio”.

that an arbitrary scenario would erode system resilience without first showing that these two scenarios indeed have a different degree of resilience.

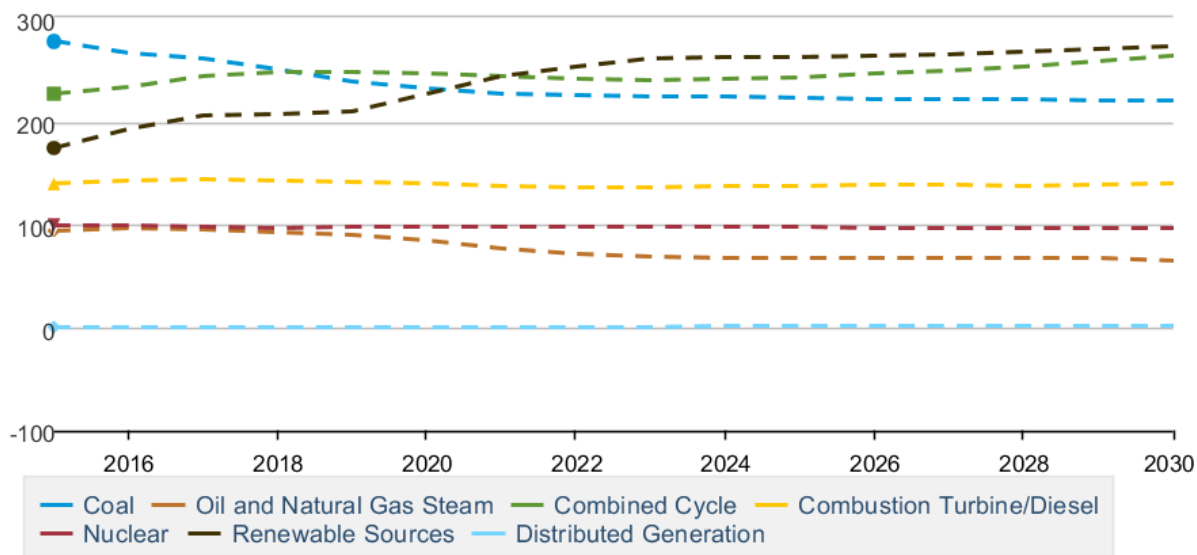
2. The IHS Report’s Counterfactual Scenario Is Not Realistic.

The IHS Report is not helpful for a further reason: the IHS Report cannot tell us what would happen with or without any action by the Commission. First, the IHS Report takes as a premise that certain types of generators will not be part of the generation mix in the future, and evaluates a different and less “diverse” generation mix. But while the Proposed Rule is likely to favor some coal, nuclear, and oil generators, the resources that the Report assumes will retire entirely are not actually projected to retire in the next 10 years. Therefore, the scenario the IHS Report is analyzing cannot be considered a realistic scenario of what would happen without any Commission action. The Energy Information Agency’s Annual Energy Outlook 2017 makes this point clear. As is shown in the figure below, under a business as usual case, coal and nuclear capacity is expected to decline somewhat by 2030 but is not expected to entirely retire.

Electricity: Electric Power Sector: Capacity

Case: Reference case without Clean Power Plan | Region: United States

GW



 Source: U.S. Energy Information Administration

Second, the analysis fails to take into account other existing state policies that are likely to limit retirements, particularly of nuclear generation. For example, a number of states have already

adopted, or are considering, adopting policies that will keep nuclear generating facilities from retiring prematurely.⁴¹ Because of these policies, the Proposed Rule would not be the reason that those generators remain in business. Conversely, some nuclear units that are retiring are doing so not just because of market fundamentals but because of state policy decisions that would not likely be reversed by the Proposed Rule.⁴² Approximately 11 GW of the 38 GW of nuclear capacity that would be eligible for support by the proposed Rule is either currently the beneficiary of state policy that would keep plants open without the Proposed Rule or is subject to state policy that would close the plants even with the Proposed Rule.⁴³

Because the “less efficient diversity portfolio case” analyzed by the IHS Report is not a reasonable reflection of what would occur in the near- to mid-term without any action by the Commission, the economic or resilience costs of that scenario are not useful in determining whether existing tariffs are unjust, unreasonable, or unduly discriminatory.

3. The IHS Report’s Assumption About Retirements Is Flawed and Internally Inconsistent.

The IHS Report incorrectly attributes the primary cause of nuclear and coal retirements to state and federal renewable energy policies. Specifically, the analysis attributes retirements to renewable portfolio standards and federal tax credits.⁴⁴ But according to the DOE Staff Report, the primary cause of coal and nuclear retirements is the low cost of natural gas.⁴⁵ The DOE Staff Report found that “the data do not show a widespread relationship between [variable renewable energy] penetration and baseload retirements.”⁴⁶ This discrepancy not only calls into question the

⁴¹ See DEP’T OF ENERGY, STAFF REPORT ON ELECTRICITY MARKETS AND RELIABILITY STAFF REPORT TO THE SECRETARY ON ELECTRICITY MARKETS AND RELIABILITY 29 (2017), [https://energy.gov/sites/prod/files/2017/08/f36/Staff Report on Electricity Markets and Reliability_0.pdf](https://energy.gov/sites/prod/files/2017/08/f36/Staff%20Report%20on%20Electricity%20Markets%20and%20Reliability_0.pdf) [hereinafter DOE STAFF REPORT] (discussing Clean Energy Standard programs in New York and Illinois); Andrew Cass, *New Ohio House Bill Aims to Subsidize State’s Nuclear Power Plants*, THE NEWS-HERALD (Oct. 13, 2017), <http://www.news-herald.com/general-news/20171013/new-ohio-house-bill-aims-to-subsidize-states-nuclear-power-plants>; Mark Pazniokas, *Deal struck on Stabilizing Profits of Millstone Nuclear Station*, THE CT MIRROR (Sept. 14, 2017), <https://ctmirror.org/2017/09/14/deal-struck-on-stabilizing-profits-of-millstone-nuclear-station/>.

⁴² DOE STAFF REPORT at 28-29 (discussing retirement of nuclear plants for reasons other than economics, including the shutdown of Indian Point nuclear plant due to its proximity to New York City); *id.* at 31 (attributing shutdown of Oyster Creek in New Jersey, Indian Point in New York, and Diablo Canyon in California to, at least in part, state policy).

⁴³ See SNL Energy.

⁴⁴ See PSEG Comments, Attachment A at 2.

⁴⁵ DOE STAFF REPORT at 13 (“The biggest contributor to coal and nuclear plant retirements has been the advantaged economics of natural gas-fired generation”).

⁴⁶ *Id.* at 50.

basic setup of the IHS Report, but also the IHS Report's underlying assumption that a resource portfolio with more natural gas and less coal and nuclear will be more rather than less expensive. Given the results of the DOE Staff Report, and the recent trends, a portfolio with more gas and less coal would be cheaper.

Furthermore, the IHS Report is not internally consistent in its assumptions about the relative costs of different resources. The IHS Report assumes that natural gas would replace most of the retirements of coal, nuclear, and oil plants in its "less efficient diverse" portfolio case, leading to gas generation accounting for about 73% of total generation. But, if the retirements of coal and nuclear plants were truly caused by renewable portfolio standards, as the report claims, and not low natural gas prices, this alternative scenario should have a higher percentage of renewable generation. The only way that there would be such a high proportion of natural gas generation in the alternative scenario, even when the intermittency of renewable resources is taken into account, is if natural gas were indeed the cheaper resource—even cheaper than renewables—contradicting the report's own assumptions. The Commission should not take action on resilience pricing based on a report with serious methodological flaws and internal inconsistencies.

4. The IHS Report Relies on Flawed Econometric Analysis.

Methodological errors call into question the numerical estimates of IHS Report. The IHS Report does not clearly identify the specific econometric methodology that was used to estimate a critical component of its cost estimates: U.S. electric demand. Nor does it report the actual results of the regression analysis. The discussion in Appendix I suggests that a simple ordinary least square ("OLS") regression was used to estimate the electricity demand function, without any consideration of an endogeneity problem. Because the observed prices and quantities are jointly determined by two simultaneous equations (supply and demand), the prices are considered endogenous, and therefore cannot be used as proper explanatory variables in an OLS regression.⁴⁷ In other words, simply regressing quantities on prices, even if they are lagged, is not an appropriate econometric strategy to estimate electricity demand. Using a variable that is endogenous—price—violates the assumptions of OLS regressions, and would lead to biased estimation results. Given the lack of discussion about if and how this potential problem was overcome, even the numerical estimates of the report (regardless of the irrelevance of the question they are answering) should

⁴⁷ A. COLIN CAMERON & PRAVIN K. TRIVEDI, MICROECONOMETRICS: METHODS AND APPLICATIONS 92 (2005).

not be taken as a reasonable estimate of costs associated with the hypothetical (if unrealistic) scenarios.

C. The Fuel Diversity Claims of the IHS Report Are Contradicted by More Credible Studies.

The flaws in the analysis of the IHS Report are reinforced by the fact that other studies that directly measure reliability and analyze the effect of fuel diversity on reliability undermine the report's conclusions. For example, in March 2017, PJM released a study titled *PJM's Evolving Resource Mix and System Reliability*.⁴⁸ This study "examines whether the resource attributes necessary to maintain system reliability will continue to be available in sufficient quantities within various potential future resource portfolios."⁴⁹ In effect, it "represents PJM's effort to understand fuel diversity and its impact to reliability."⁵⁰ PJM's more comprehensive and considered study demonstrates that the IHS Report is substantively unreasonable.

Unlike the IHS Report, the PJM study did not see immediate near-term risks: "The expected near-term resource portfolio is among the highest-performing portfolios and is well-equipped to provide the generator reliability attributes."⁵¹ The PJM study goes on to conclude that "more diverse portfolios are not necessarily more reliable; rather, there are resource blends between the most diverse and least diverse portfolios which provide the most generator reliability attributes."⁵² The PJM study did find that certain scenarios with extreme levels of wind and solar power may not provide sufficient reliability attributes, but "many of the potential future resource portfolios are likely to be reliable because they are likely to provide adequate amounts of the defined key generator reliability attributes. This observation holds true even for potential resource mixes that are heavily reliant on natural gas-fired generation and thus lack fuel diversity."⁵³

⁴⁸ PJM INTERCONNECTION, PJM'S EVOLVING RESOURCE MIX AND SYSTEM RELIABILITY (2017) [hereinafter PJM FUEL DIVERSITY STUDY], <http://www.pjm.com/~media/library/reports-notice/special-reports/20170330-pjms-evolving-resource-mix-and-system-reliability.ashx>.

⁴⁹ *Id.* at 1.

⁵⁰ *Id.* at 2.

⁵¹ *Id.* at 4.

⁵² *Id.* at 5.

⁵³ *Id.*

III. The Commission Should Reject Commenter Proposals Related to State Environmental Policies.

Commenters have suggested the Commission shift focus to consideration of market effects of state environmental policies. Others have proposed changes to the Proposed Rule related to state environmental law. The Commission should not adopt either suggestion.

A. The Commission Should Not Conflate Action on the Proposed Rule with Separate Questions or Proceedings Related to the Interaction of Wholesale Markets and State Environmental Policy.

Some commenters have used this opportunity to complain about potential price effects of state environmental policies.⁵⁴ Commenters urge the Commission to take this proceeding as an opportunity to undermine those state policies.⁵⁵

However, complaints about state environmental policies are beyond the scope of this rulemaking. The existence of state environmental policies do not form the basis of DOE's Proposed Rule and neither the Proposed Rule nor commenters have provided evidence that these policies are undermining resilience.⁵⁶ These policies are legitimate exercises of state authority to determine their generation mix and protect their citizens from environmental harm, including by compensating generators for the true cost of emissions, thereby fixing a market failure caused by the external costs of dirty generation.⁵⁷ To the extent that the Commission wants to continue to consider the interaction of state policies and Commission-jurisdictional markets, it must do so in the appropriate docket and with appropriate notice and comment opportunities.⁵⁸

⁵⁴ NRG Comments at 8-9; *see also* Peabody Comments at 3, 6; Murray Energy Comments at 31; *Initial Comments of the Electric Power Supply Association*, Docket No. RM18-1-000 at 51-53 (submitted Oct. 23, 2017).

⁵⁵ NRG Comments at 8-9.

⁵⁶ Some commenters attribute the retirement of certain generation sources to state policies, and the retirement of this generation to decreased grid resilience. *See, e.g.* ACC Comments at 2; ACCCE Comments at 3-4; PSEG Comments at 6-7. However, as discussed *supra* at 10-11, these policies are not the primary cause of coal and nuclear retirements. Moreover, as argued throughout our initial comments and in these reply comments, there is not evidence to conclude that retirement of coal and nuclear generation is undermining resilience.

⁵⁷ *See Coal. for Competitive Elec. v. Zibelman*, No. 16-CV-8164 (VEC), 2017 WL 3172866 (S.D.N.Y. July 25, 2017).

⁵⁸ *See Fla. Power & Light Co. v. United States*, 846 F.2d 765, 771 (D.C. Cir. 1988) (“The APA requires the Commission to provide notice of its proposed rulemaking adequate to afford interested parties a reasonable opportunity to participate in the rulemaking process. Such notice must not only give adequate time for comments, but also must provide sufficient factual detail and rationale for the rule to permit interested parties to comment meaningfully.”) (citations omitted); *see also Availability of E-Tag Info. to Comm'n Staff*, 153 FERC ¶ 61177 at P 39 (Nov. 19, 2015) (describing the logical outgrowth doctrine).

These state policies do, however, serve to highlight the deficiencies of the Proposed Rule. Whereas the Proposed Rule would implement a policy that provides cost-of-service rates to classes of assets for an undefined and supposedly unvalued “resilience” attribute (on-site fuel storage), state policies have not been so ill considered. State policies have identified specific attributes of power generation that are not adequately compensated for in the market, such as carbon-free power. These attributes, unlike “resilience,” are well understood and easily quantified. States have designed their policies to specifically compensate for these attributes in a market-friendly way that utilizes mechanisms that determine and then provide generators the actual value of the attribute they are providing the state.⁵⁹ This approach protects consumers by ensuring that they are not paying more for the desired level of environmental and economic performance associated with emission free energy than is necessary and is well within state authority over electricity generation and rate-setting.

The Proposed Rule does not have any of these critical features. Unlike the clear, direct, and measurable connection between reducing emissions of greenhouse gases and mitigating climate change, there is no record to support a finding that payments for on-site fuel supply (or of fuel diversity, or traditional operation as baseload) are necessary to ensure grid resilience. And unlike a payment specifically based on the social benefits of zero emission generation, providing generators with cost-of-service provides no consumer protection. Instead it would likely overcompensate generators for resilience-related attributes they provide (if any).

B. The Commission Should Reject Proposals to Allow Eligible Resources to Violate State and Local Environmental Laws.

Policy Integrity strongly urges the Commission to reject DOE’s Proposed Rule. However, to the extent the Commission adopts a policy consistent with the Proposed Rule, it should reject First Energy’s proposal to eliminate the requirement that eligible units be in compliance with any state and local environmental laws and to limit the requirement with respect to federal law to only requiring “substantial” compliance.⁶⁰ Requiring only substantial compliance and drawing distinctions between federal environmental laws, and state and local laws would be inconsistent with how the Commission has treated these matters in the past. For example, reliability must run

⁵⁹ For example, New York is providing zero emission nuclear generators credits with values set based on the Social Cost of Carbon. *Zibelman*, No. 16-CV-8164 at *4.

⁶⁰ First Energy Comments at 41-42.

contracts under approved ISO/RTO tariffs contemplate full compliance with federal, state, and local environmental laws.⁶¹ It would be arbitrary for FERC to depart from that precedent and adopt environmental compliance requirement with respect to federal environmental law requirements but not state and local requirements.

IV. Conclusion

Commenters have not provided support for a Commission finding that existing ISO/RTO tariffs are unjust and unreasonable on the basis that they do not sufficiently value a “resilience” attribute. For the reasons stated here, and in our initial comments, the Commission should “take final action” under section 403(b) of the Department of Energy Organization Act and reject DOE’s Proposed Rule.

Respectfully submitted,

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⁶¹ See, e.g. Cal. Ind. Sys. Op. Open Access Transmission Tariff, Appendix G Pro Forma Reliability Must Run Contract Art. 4.6(vii), 4.8; *RC Cape May Holdings, LLC*, Docket No. ER17-1083-000, RC Cape May Holdings, LLC Electric Rate Schedule FERC No. 3 Reliability Must-Run Rate Schedule Art. 3.3(b) (filed May 1, 2017).