

RESPONSE TO QUESTIONS FOR THE RECORD OF
CHRISTOPHER MANSOUR
VICE PRESIDENT, FEDERAL AFFAIRS
SOLAR ENERGY INDUSTRIES ASSOCIATION

BEFORE THE
HOUSE SUBCOMMITTEE ON ENERGY

HEARING ON
Powering America: Defining Reliability in a Transforming
Electricity Industry

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Solar Energy Industries Association
600 14th Street NW, Suite 400
Washington, DC 20005
(202) 682-0556
www.seia.org

The Honorable Richard Hudson

- 1. The solar industry has seen incredible growth in my home state of North Carolina over the past few years. In fact, we are currently ranked 2nd in the nation for solar energy capacity.
 - a. Mr. Mansour, can you explain more about the role solar energy plays in maintaining a reliable and resilient electricity system?****

That's correct. North Carolina is one of the fastest-growing solar states in the country. There are more than 3,500 MW of solar installed to-date in North Carolina, enough to power 400,000 homes. Solar investment tops \$5.5 billion and more than 250 solar companies call North Carolina home.

Solar energy is a key resource in ensuring a reliable and resilient electric system. Solar can be deployed in a variety of applications, providing electricity to homeowners, businesses, and the wholesale power grid. Distributed generation (DG) solar can help to reduce peak load on overtaxed feeders. When coupled with batteries or used in a microgrid configuration, DG solar can provide power during an outage to a hospital or community center. Connected to the wholesale grid, utility-scale solar increases generation fuel diversity and can be sited to relieve transmission constraints. On the whole, solar's varied applications allow it to increase the reliability and resilience of any electric system to which it connects.

The Honorable Peter Welch

- 1. In DOE's recent request that FERC raise the price of so called "baseload power" to keep coal and nuclear plants online, the agency says it's necessary because of "energy outages expected to result from the loss of this fuel-secure generation" and because of "recognition that organized markets do not pay generators for all the attributes they provide."
 - a. Whether or not that is true, do you believe generators of solar, wind, and energy storage are compensated fully for their attributes in wholesale markets?****

There are many attributes that are uncompensated in wholesale markets today. Currently, wholesale electricity markets do not place a value on zero-carbon resources. In addition, ancillary services are frequently provided as a bundled product, along with energy, from traditional generation sources, but they are not expected (nor compensated for) from renewable generators, and there are no wholesale markets that procure ancillary services on a competitive basis. As I stated in my written testimony, solar has proven that it is capable of providing essential reliability services to the grid.

- b. Do wholesale markets price any electricity source based on their attributes and how they benefit the public?**

No. Today's wholesale markets are designed to produce a "security-constrained economic dispatch." That is, the computer algorithms produce a result that dispatches generation with the lowest bid-in price, while simultaneously meeting all of the reliability requirements needed

for that system operator. These day-ahead and hour-ahead markets value resources with the lowest marginal price, all other factors being equal. It is important to note that many factors are not included in a unit's marginal price, such as future waste disposal costs or the benefits derived from not polluting.

In these algorithms, reliability needs outweigh price. If a reliability need must be met in a certain geographic area, a higher-priced generation resource that can meet the reliability need will be selected over a lower-priced resource and paid its higher marginal cost.

c. Do you think DOE is suggesting that FERC create a Value of Coal Tariff to price in non-monetizable attributes?

I cannot speak to DOE's intention to create a "Value of Coal Tariff" with this proposal. However, there is clear evidence that energy outages are not expected, even if certain coal and nuclear generators retire. This is well-documented in a recent report by The Brattle Group¹:

The most recent surveys find that current and projected resource adequacy will remain within normal bounds and that sufficient generation resources will provide a high level of reliability against known and likely contingencies. FERC's recent *Energy Market Assessment for Winter 2017–2018* uses preliminary data from NERC's forthcoming 2017–2018 Winter Reliability Assessment to project healthy reserve margins for all assessment areas. In PJM, where the largest number of retirements has occurred (and where the vast majority of plants eligible under the proposed rule reside), the latest capacity auction indicates substantial surplus: a competitive market result procuring 6.7% more than the 16.6% target adequacy reserve margin for 2020/21. Over longer time scales (5 and 10 years), NERC projects that all U.S. regions will exceed target reserve margins in 2021, with only Midcontinent ISO ("MISO") falling short starting in 2022.

¹ The Brattle Group, Evaluation of the DOE's Proposed Grid Resiliency Pricing Rule, pp. 6-7, footnotes omitted. Available at http://brattle.com/system/publications/pdfs/000/005/530/original/Evaluation_of_the_DOE's_Proposed_Grid_Resiliency_Pricing_Rule.pdf?1509064658.