

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

IN THE MATTER OF)	
)	FE DOCKET NO. 10-111-LNG
Sabine Pass Liquefaction, LLC)	
and Sabine Pass LNG, L.P.)	

Motion to Supplement the Record

Pursuant to 10 C.F.R. §§ 590.302 & 590.310, the Sierra Club hereby moves to supplement the record in this case. DOE/FE has conditionally granted Sierra Club's petition for rehearing, *see* Order Granting Rehearing for Further Consideration (Oct. 5, 2012) ("Rehearing Grant"). During this period of continued review, it is essential that DOE/FE have access to a full record. In particular, the record must include important evidence on one of the central questions in this case: whether LNG export projects cause reasonably foreseeable natural gas production impacts for purposes of NEPA analysis. *See, e.g.,* Order 2961-A (Aug. 7, 2012) at 28. DOE materials which are public, but which are not in the record, demonstrate that such impacts are foreseeable using a modeling system DOE itself has developed. Sierra Club seeks to bring this evidence to DOE/FE's attention.

I. The Record Should be Supplemented to Reflect the Capabilities of DOE's Own Modeling System

Sierra Club protested this LNG project application in large part because neither FERC nor DOE has considered or disclosed the environmental impacts associated with increased production of LNG for export, both for Sabine Pass and as a cumulative result of other export proposals. DOE declined to consider such impacts, asserting that it is "impossible to meaningfully analyze when, where, and how shale-gas development will be affected by the Liquefaction Project and the proposed exports." Order 2961-A at 28. Sierra Club petitioned for rehearing on this issue, and as to whether it should be allowed to intervene, and DOE recently granted rehearing "for the limited purpose" of considering the petition further. Rehearing Grant at 1. Because Sierra Club has become aware of important information relevant to this continuing consideration, it hereby moves to supplement the record to include this information.

Specifically, Sierra Club moves to include three documents in the record:

- (1) Energy Information Administration (“EIA”), *The National Energy Modeling System: An Overview* (2009), attached as Exhibit A;
- (2) EIA, *Documentation of the Oil and Gas Supply Module* (2011), attached as Exhibit B; and
- (3) EIA, *Model Documentation: Natural Gas Transmission and Distribution Module of the National Energy Modeling System* (2012).

These documents were produced by the EIA, DOE’s own statistical agency. They describe the operation of the National Energy Modeling System (“NEMS”), the EIA’s core analytic tool. NEMS is in regular use throughout the agency. In particular, the EIA’s January 2012 report on price impacts of LNG exports, which Sierra Club has already introduced into the record in this proceeding and which the parties discussed extensively in their filings here, used NEMS to generate its predictions. See EIA, *Effects of Increased Natural Gas Exports on Domestic Energy Markets* (2012) at 3. The *Annual Energy Outlook*, the EIA’s regular overview of all domestic energy systems, also relies upon NEMS.

EIA’s formal documentation for NEMS is available online, and thoroughly describes the system. That documentation demonstrates that DOE/FE is in error when it states that the implications of LNG export demand for the production and supply of domestic gas are not foreseeable. In fact, NEMS’s natural gas sub-models are explicitly designed to project how supply will respond to demand on a national and a regional basis; indeed, they *must* do so for the model to generate predictions. As such, NEMS could (and in fact has) be used to project likely production increases in response to increased demand caused by LNG exports, including Sabine Pass’s proposed export system. NEMS therefore provides the analysis of “when, where, and how shale-gas development will be affected” that DOE Order 2961-A states it would be impossible to produce.

NEMS models the economy’s energy use through a series of interlocking “modules” that represent different energy sectors on regional and national levels. See Ex. A at 1-2. The “Oil and Gas Supply” Module and the “Natural Gas Transmission and Distribution” Module jointly represent the entire domestic natural gas sector, and describe how production responds to demand across the country.

Specifically, the Supply Module is built on detailed state-by-state reports of gas production across the country. See Ex. B at 2-2. These reports allow the EIA to develop regionally differentiated models of the costs of production in each gas field, and how readily production can be increased in those fields. As the EIA explains, “production type curves have been used to estimate the technical production from known fields” as the basis for a sophisticated “play-level model that projects the crude oil and natural gas supply from the lower 48.” *Id.* at 2-3. The module reports its results for regions throughout the United States, including the Northeast, the Gulf Coast, and areas in Texas and Arkansas likely to supply gas to export terminals like Sabine Pass. *Id.* at 2-4. It also distinguishes coalbed methane, shale gas, and tight gas from other resources, allowing for specific predictions distinguishing unconventional gas production from conventional natural gas production. *Id.* at 2-7. The module further projects the number

of wells drilled each year, and their likely production; these are important figures for estimating environmental impacts. *See id.* at 2-25 -2-26.

In short, this module “includes a comprehensive assessment method for determining the relative economics of various prospects based on future financial considerations, the nature of the undiscovered and discovered resources, prevailing risk factors, and the available technologies. The model evaluates the economics of future exploration and development from the perspective of an operator making an investment decision.” *Id.* Thus, for each play in the lower 48 states, the EIA is able to predict future production based on existing data. Importantly, the EIA makes clear that “the model design provides the flexibility to evaluate ... environmental, or other policy changes in a consistent and comprehensive manner.” *Id.* Those policy changes include permitting LNG export.

LNG export creates new demand and transmission needs. The next NEMS module, The Transmission and Distribution Module, can address these impacts. It integrates supply projections with regional and national demand to help determine how gas will flow to areas experiencing increased demand. As EIA explains, the module “represents the transmission, distribution, and pricing of natural gas” using a national module of the transmission system, which, in turn, is divided by region. *Ex. C* at 2. The module “links natural gas suppliers (including importers) and consumers in the lower 48 States and across the Mexican and Canadian borders via a natural gas transmission and distribution network, while determining the flow of natural gas and the regional market clearing prices between suppliers and end-users.” *Id.* Because the Transmission Module represents demand regionally, it can distinguish, for instance, between LNG export demand on the Gulf Coast, such as Sabine Pass would create, from demand in the Northeast. *See id.* at 12-14. For each region, the module then links supply and demand annually, taking transmission costs into account, in order to project how demand will be met by the transmission system. *See id.* at 15-16. Thus, it interacts with the Supply Module to develop projections for how supply in each production region will evolve in response to demand. *See id.* at 16-20.

Importantly, the Transmission Module already is designed to model LNG imports and exports, and contains an extensive modeling apparatus to do so. *See id.* at 22-32. The Module includes import/export pipelines and the sole existing LNG export terminal in Alaska. *Id.* at 3. There is, thus, no technical barrier to modeling increased export demand going forward. *See id.* at 30-31. One source of demand is much like any other, so additional export terminals can simply be modeled as additional demand centers in the regions in which terminals are proposed. The Module could, for instance, readily model additional demand along the Gulf Coast or other coasts, and translate that demand back to the Supply Module. Again, this process is essentially what the EIA already did in the context of its January 2012 LNG export study, which relied on NEMS to forecast the production and price impacts of export.

In sum, the attached exhibits demonstrate that DOE/FE in fact can model foreseeable impacts of increased gas demand associated with LNG export from Sabine Pass and the other projects before it. To be sure, some uncertainty is associated with these predictions, but they are as

reliable as the other NEMS results which DOE already regularly relies on. As such, the NEMS documentation documents are plainly relevant to, and strongly support, Sierra Club's petition for rehearing. Sierra Club therefore moves to supplement the record to ensure that these materials are before DOE/FE as it continues to consider the petition.

Although DOE/FE rules set out no particular standard for motions to supplement the record, supplementation is plainly appropriate here. This case has turned on the foreseeability issues which these materials address, and which Sierra Club raised in its petition for rehearing. Moreover, these materials were produced by DOE itself, and so should be deemed to be reliable descriptions of the DOE modeling system which they describe. DOE/FE should complete its consideration of this petition on a full record, and so should include these materials in the docket.

Moreover, to the extent that this motion is construed as a request for additional procedures under 10 C.F.R. § 590.310, there is good cause to grant it. Again, these materials are highly relevant to DOE/FE's consideration of Sierra Club's motion. Including them in the record will inform DOE/FE's analysis but will not unduly delay these proceedings because DOE/FE has already held them open with no particular closing date stated. Moreover, any additional delay caused by including the NEMS documents is far outweighed by ensuring that DOE/FE is fully informed of NEMS' capabilities. As the Natural Gas Act makes clear, DOE/FE must carefully consider whether each export application is consistent with the public interest, and as NEPA provides, a full accounting of environmental impacts is central to proper federal decisionmaking. Including these materials in the records serves the purposes of both statutes by ensuring that DOE/FE can fully consider these important questions.

II. Conclusion

For the foregoing reasons, this motion should be granted.

Filed: November 1, 2012.



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CERTIFICATE OF SERVICE

I hereby certify that I caused the attached documents to be served upon all parties on the service list for this case, in accordance with 10 C.F.R. § 590.017, on November 1, 2012.


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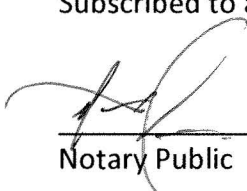
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VERIFICATION

Pursuant to 10 C.F.R. § 590.103(b), I, Craig Segall, being duly sworn, affirm that I am authorized to execute this verification, that I have read the foregoing document, and that the facts stated herein are true and correct to the best of my belief.


Craig Segall
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Subscribed to and sworn before me on 1st day of November, 2012.



Notary Public

Moise Xavier
Notary Public, District of Columbia
My Commission Expires 12/14/2014