October 22, 2019

SUBMITTED VIA EMAIL TO ENERGY.COMMENTS@BPU.NJ.GOV

Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 S. Clinton Avenue
Post Office Box 350
Trenton, NJ 08625

Re: Comment of Environmental Defense Fund and New Jersey Conservation Foundation on Docket No. GO19070846, In the Matter of the Exploration of Gas Capacity and Related Issues

Dear Secretary Camacho-Welch:

Environmental Defense Fund ("EDF") and the New Jersey Conservation Fund ("NJCF") respectfully submit this comment to New Jersey Board of Public Utilities ("Board" or "BPU") Docket No. GO19070846, In the Matter of the Exploration of Gas Capacity and Related Issues. This comment explains that: (1) analyses presented by other participants in this docket, particularly that by Levitan & Associates, understate available transportation capacity serving New Jersey; (2) the Board should update its gas supply assessment processes so that they are more transparent and thorough, with the opportunity for intervention by interested parties and evidentiary proceedings; and (3) in any such proceedings, the impacts of natural gas supply arrangements and pipeline transportation contracts on New Jersey climate policy should be considered. Attached to this comment is the affidavit of Greg Lander, President of Skipping Stone, who conducted an analysis of gas supply available in New Jersey on behalf of EDF.

This docket was initiated by the Board in response to a petition filed by the Retail Energy Supply Association ("RESA") seeking a proceeding to establish a mechanism for the release of gas capacity to the State's third party suppliers ("TPSs").[1] The Board found that RESA did not demonstrate "that the utilities have sufficient gas capacity to create the type of capacity release program that RESA is proposing," so the Board opened this proceeding to "explore gas capacity

[1] Decision & Order: *In the Matter of the Verified Petition of the Retail Energy Supply Association to Reopen the Provision of Basic Gas Supply Service Pursuant to the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 Et Seq., and Establish Gas Capacity Procurement Programs*, BPU Docket No. GO17121241 (Feb. 27, 2019).

issues and the related issue of savings achieved by residential customers served by TPSs."[2] The Board has directed EDF towards this docket as an "appropriate proceeding" in which to participate and raise issues related to gas capacity.[3]

At the October 1, 2019 meeting in this proceeding Levitan & Associates presented a series of slides, prepared on behalf of New Jersey Natural Gas, addressing gas capacity in New Jersey available to the four natural gas utilities. The slides correspond to a larger report on the same topic.[4] Levitan & Associates' analysis is not tailored to the focus of this proceeding, which was initiated on behalf of TPSs and is intended to address the possible creation of a capacity release mechanism. Nonetheless, in these comments, EDF and NJCF identify shortcomings with the Levitan Report which systematically understate pipeline capacity to serve natural gas demand in New Jersey, *see* Part 1. EDF respectfully notes that this mismatch between the stated purposes of this docket and the out-of-scope Levitan Report further illuminates the need for the Board to establish a comprehensive, transparent gas supply planning process that includes the opportunity for intervention by interested parties and evidentiary hearings, *see* Part 2.

1. A Thorough Analysis of Gas Capacity in New Jersey Must Include All Sources.

The natural gas pipeline system has dramatically expanded over the past decade, primarily through *producer-push projects*, whereby producers and marketers have contracted for new capacity to move low-cost production, particularly from Pennsylvania and West Virginia. A recent example of such projects is Atlantic Sunrise, which is primarily subscribed by producers. In general, these projects allow producer-push shippers to sell pipeline capacity and bundled supply to end users. Numerous such producers/marketers have identified delivery points in New Jersey as a destination for northeast production, either as a primary point or as a means to transact up and down the Northeast and Mid-Atlantic regions by "segmentation"[5] and/or

[2] *Id.*; *see also* Notice: *In the Matter of the Exploration of Gas Capacity and Related Issues*, BPU Docket No. GO19070846 (Sept. 10, 2019).

[3] EDF sought to intervene and raise these concerns in three gas utilities' Basic Gas Supply Service proceedings, arguing that the annual BGSS proceedings should involve review of gas utility "overall gas purchasing strategies." *See* BPU Docket No. GR19050675, BPU Docket No. GR19050678, and BPU Docket No. GR19050679. The Board recently denied EDF's interventions in all three proceedings, noting that EDF could raise its issues in "other appropriate proceedings" such as the Energy Master Plan, among others. See *Decision and Order Approving Stipulation for Provisional BGSS, BSC, and CIP Rates* at 7, Docket No. GR19050675 (Sept. 11, 2019); *Decision and Order Approving Stipulation Regarding Provisional BGSS Rate* at 6, Docket No. GR19050678 (Sept. 11, 2019); *Decision and Order Approving Stipulation for Provisional BGSS, BSC, and CIP Rates* at 8, Docket No. GR19050679 (Sept. 11, 2019).

[4] Levitan & Associates, *Availability of Natural Gas Capacity to Meet New Jersey LDC Customer Needs*, prepared for New Jersey Natural Gas (June 10, 2019) ("Levitan Report"). It appears that Levitan & Associates has not submitted the complete report to this docket, but did submit a written comment that relies on the report.

[5] "Segmentation" enables multiple uses of a shipper's capacity path to receive and deliver supplies along its route so long as such uses do not overlap. For example, a shipper with capacity from Pennsylvania to Georgia can use all of its capacity to receive gas in Pennsylvania, deliver all of the gas in northern New Jersey, then receive gas up to all of its capacity into that same contract in southern New Jersey, Maryland, or Virginia and take the gas to the end of its capacity in Georgia.

displacement. The bottom line is that such producer-push contracts are the source of significant pipeline capacity and gas supply expansion into New Jersey.

This expanded supply and transportation capacity should not be overlooked when assessing gas supply. EDF and NJCF reviewed the slides presented by Levitan & Associates at the October 1, 2019 Board meeting and the corresponding report, and identified a number of such shortcomings with the scope of its analysis. Notably, the Levitan Report omits consideration of any contract quantities held by any party other than a New Jersey LDC shipper, a producer/marketer with primary delivery to a New Jersey LDC location, or a New Jersey end-user, *even where the intended delivery points for such deliveries are in New Jersey or available to New Jersey*.

Detailed analysis of pipeline utilization reveals that these producer- and/or marketer-held transportation rights are being extensively used by New Jersey customers, and in fact, significant quantities are essentially locked into the state. Ignoring the availability and ongoing use of such producer/marketer push capacity presents an inaccurate representation of the pipeline system serving New Jersey, and in this instance, risks imposing the cost of unnecessary (and therefore uneconomic) capacity onto the backs of retail utility ratepayers.

The Levitan Report concludes that "new natural gas infrastructure will be needed in the near term if the LDCs are to meet their reliability goals," but the report omits discussion and consideration of existing natural gas transmission capacity in New Jersey that is available to and being extensively used to provide transportation capacity and/or bundled supply into the state. The Levitan Report is more notable for what it omits than for what it includes, suggesting that the analysis was narrowly structured to support a preconceived thesis—that new pipeline capacity is needed—without considering several sources of supply that currently target deliveries to the New Jersey and New York area. It is crucial that these conclusions be critically reviewed, because overlooking existing infrastructure can lead to inefficient allocation of capital to the detriment of customers and market participants due to overbuild based on incorrect assessments of available capacity.

a. The Levitan Report Fails to Account for Stranded TETCO Capacity that Can be Used for New Jersey Deliveries.

A significant amount of capacity on the Texas Eastern Transmission pipeline ("TETCO") is stranded capacity in New Jersey, meaning that it is readily available for New Jersey utilities and third-party suppliers to purchase and deliver to customers. The Levitan Report fails to account for that capacity as an option for New Jersey local distribution companies.

There is currently at least 334,471 Dekatherms/day ("Dthd") of natural gas capacity available on TETCO, which runs through New Jersey to Manhattan. Texas Eastern contracted with the New York utility Consolidated Edison ("ConEd") and several producer-marketers for a total of 800,000 Dthd on TETCO to the ConEd Manhattan Delivery point. Of that 800,000 Dthd, ConEd has 170,000 Dthd contracted. However, ConEd does not have the receiving capacity to accept

all of the 800,000 Dthd of capacity at the Manhattan entry point. The maximum deliveries ever made to that location are 465,529 Dthd, indicating that at least 334,471 Dthd of capacity are available for use in New Jersey.

The Levitan Report acknowledges that the TETCO "Manhattan delivery point is currently underutilized due to limited receipt capacity at the Con Edison side of the delivery meter."[6] But the Report declines to consider that capacity as a valid resource for New Jersey customers, because of a remote concern that "flow volumes on the expansion facilities will increase in the years ahead."[7] The expansion referred to in the Levitan Report, however, is still seeking regulatory approvals and it is not clear if or when any such expansion will be in service. Should such expansion be approved and under development, it will be appropriate to reassess the supply/demand balance for New Jersey considering market fundamentals at that time. In the current context, New Jersey customers are taking delivery from the TETCO capacity and it is inaccurate to discount or omit this capacity from consideration based on speculation.

b. The Levitan Report Mistakenly Assumes that Capacity is Not Available for New Jersey Because Downstream Recipients Could Utilize It.

The Levitan Report states that capacity in New Jersey held by shippers who also deliver to other pipelines is not available to New Jersey markets because that capacity will be used by the shippers on the downstream pipeline. While this is plausible, a closer analysis of takeaway capacity on the downstream pipelines (in particular Algonquin Gas Transmission ("AGT")) reveals that there is more capacity contracted to that pipeline in New Jersey than there are firm contracts for takeaway capacity from New Jersey. This means that there is a surplus of capacity that exists, that can't be used on this downstream pipeline, and which could be (and is) used in the state.

Specifically, the Levitan Report makes this assertion with regard to AGT.[8] But detailed operational and market analysis conducted by Skipping Stone demonstrates that in aggregate there is more capacity *into* AGT across the pipelines that deliver gas into the AGT pipeline, than there is firm takeaway capacity *on* AGT.[9] There are instances where the takeaways from interconnects in New Jersey between AGT and the feeding pipeline exceed the firm contracts on the feeding pipelines. Even after accounting for the feeding pipeline deficiencies by deducting them from the excess of shipper capacity to AGT, however, there remains excess capacity available in New Jersey relative to firm takeaways on AGT.

[6] Levitan Report at 23.
[7] *Id.*
[8] Levitan Report at 13 (stating that for the Algonquin pipeline capacity that is deliverable to interconnections in New Jersey, "New England is within the capacity path, and a more likely secondary destination for the capacity than New Jersey").
[9] *See* Affidavit of Greg Lander, Exhibit GL-2.

Of the excess capacity on AGT, 360,841 Dthd is on the Tennessee pipeline and passes locations where Transco can receive gas from Tennessee for use in New Jersey.[10] That 360,841 Dthd should be considered in any assessment of available capacity in the state.

c. The Levitan Report Mischaracterizes the Amount of Capacity That Can Feed the Station 210 Pooling Point.

The Levitan Report only counts that capacity which shippers bought with Station 210 as their primary delivery point,[11] but this is a mischaracterization which fails to consider additional pipeline capacity that has access to the Station 210 pooling point on its way south to other markets. There is an additional 1,792,610 Dthd of such capacity. And in addition to the southbound capacity that can access the Station 210 pooling point, there is another 133,476 Dthd of northbound capacity past Station 210 which originates in Zones 2, 3, and 4 that is held by Zone 5 Markets. This northbound capacity can be used to serve the native loads of the shippers holding this capacity and then be used to receive gas into that capacity in Zones 5 and southerly Zone 6 and deliver it to Station 210 on a firm in-path basis.[12]

The sum of these two amounts is 1,926,086 Dthd. Notably, even if those North to South shippers with native load (i.e., those inside of the 1,792,610 Dthd of capacity accessible to Station 210) determined to take ***all*** of their gas to their native markets and not segment any of their capacity, there would still be 736,086 Dthd of capacity accessible to Station 210 that is held by marketers and shippers with Zone 6 to Zones 4 and 5 segmentable capacity.

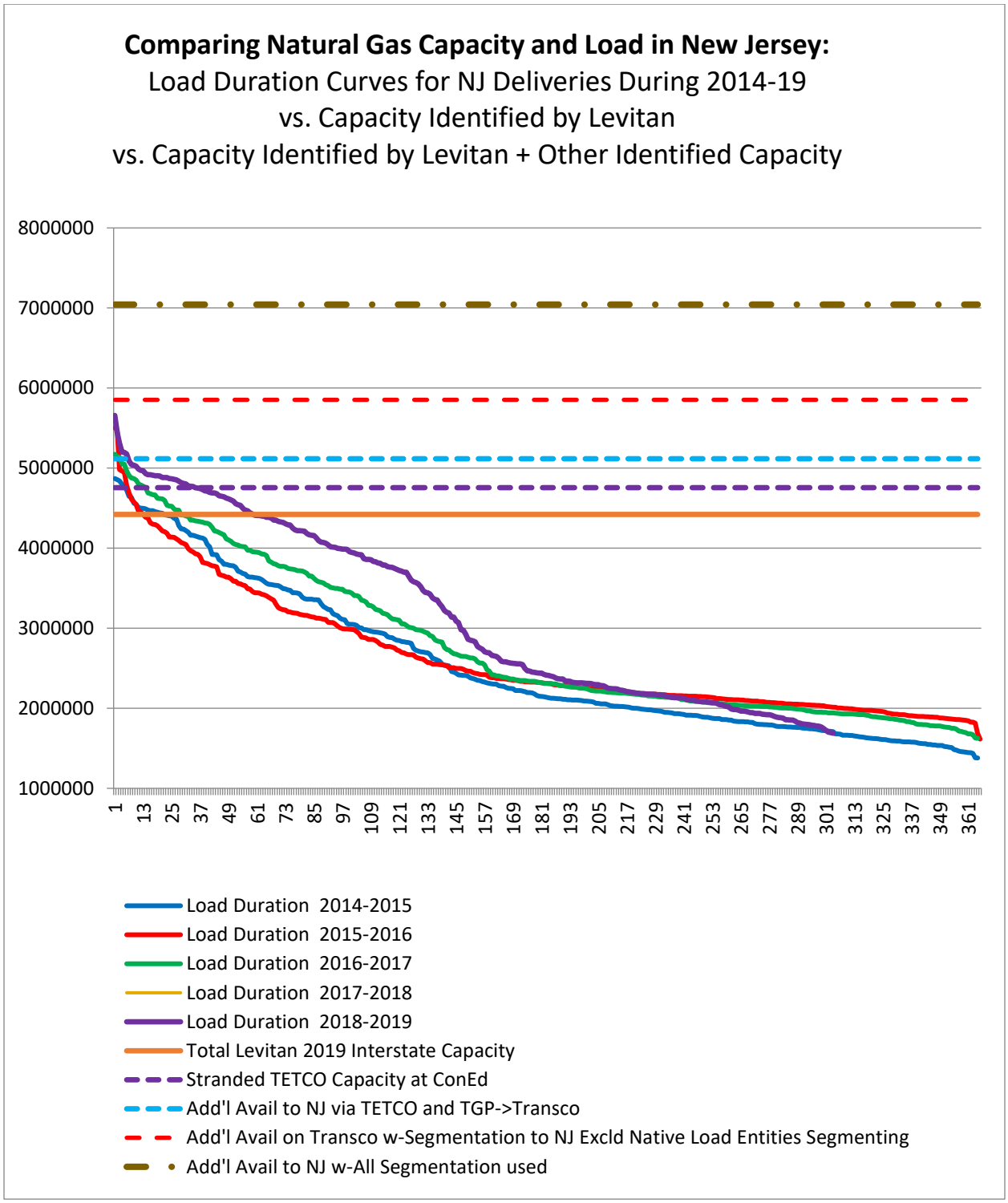
Thus, there is capacity available to New Jersey shippers from the Station 210 pooling point beyond just the existing firm contracts held by the natural gas utilities and suppliers in the state. The Levitan Report undercounted this capacity.

d. There is More Available Gas Capacity in New Jersey than that Cataloged in the Levitan Report.

The total additional natural gas transportation capacity available to New Jersey, as detailed in Parts 1(a)-(c) above, is 1,431,398 Dthd, which is omitted from consideration in the Levitan Report. The chart below demonstrates these additional sources of capacity. Of this 1,431,398 Dthd, fully 695,312 Dthd has no home other than to be sold off of the TETCO or Transco pipelines into New Jersey markets because it is otherwise stranded in New Jersey. These volumes must be considered as part of any assessment of need for capacity in New Jersey, because overlooking existing infrastructure can lead to obligating captive retail customers to long term costs for unnecessary capacity expansion. Notably, due to the affiliate (self-dealing)

[10] In total, 515,096 Dthd of excess AGT capacity exists that is or can be delivered to pipelines that can serve New Jersey. Of that amount, 360,841 Dthd is readily accessible from the Tennessee and Transco pipelines.
[11] *See, e.g.*, Levitan Report at iii-iv, 7-8 ("The need to compete for supply from the [Station 210] pool means that there is a risk that sufficient supplies will not be able to be arranged.").
[12] *See supra* n.5 (describing segmentation of pipeline capacity).

relationship between numerous PennEast shippers and developers, those obligations would impose undue risk on ratepayers to the benefit of those same utilities' shareholders.



2. The Board Should Update its Gas Supply Planning Process with a Longer-Term Focus and Greater Transparency.

As EDF has advocated previously before this body, it is essential that the Board of Public Utilities implement robust gas supply planning processes with opportunities for public participation.[13] The current process is replete with deficiencies that impose avoidable risks on retail customers. An audit report conducted by NorthStar Consulting Group of New Jersey Natural Gas and its affiliates concludes that "the current planning process is inadequate to support portfolio decisions."[14] The NorthStar report noted, for example, that there is no consideration of year-round system capacity relative to non-peak system requirements, no assessments of alternative delivery options (e.g., winter only or peaking contracts), and no consideration of uncertainties in future demand, market prices or other supply risks.[15]

A number of the concerns raised by RESA in its petition that led the Board to open this docket, Docket No. GO19070846, point to the need for more comprehensive, transparent gas supply planning in New Jersey. RESA asserts that "a review of New Jersey's retail gas market is long overdue" and "the current GDC gas capacity release programs have not been investigated or reviewed in a focused Board proceeding in over a decade," rendering those programs "generic and outdated," and thus not "well-subscribed, utilized, or easily understood."[16] RESA also emphasizes the lack of transparency, stating that "there is no clear understanding of how much capacity the GDCs hold and whether or not there is underutilized capacity that could be more effectively used through a capacity release program."[17] In addition, at least one commenter[18] has suggested the Board consider a mandatory capacity release program in New Jersey similar to that used in other states; where the firm customers of the gas distribution companies ("GDCs") that migrate to competitive suppliers have the capacity that the GDC has obtained to serve their requirements follow them to the competitive supplier for the duration of that relationship; and then return to the GDC at termination. As implemented in other states, such a program could prevent over-booking of capacity and would ensure reliability.[19]

These issues identified by third-party suppliers in this docket are indicative of the broader need for a more comprehensive planning process.

---

[13] *See, e.g.*, EDF Motions to Intervene in BPU Docket No. GR19050675, BPU Docket No. GR19050678, and BPU Docket No. GR19050679.

[14] NorthStar Consulting Group, Audit of Affiliated Transactions between New Jersey Natural Gas Company and New Jersey Resources and Affiliates at 108 (June 26, 2014, https://www.bpu.state.nj.us/bpu/pdf/auditpdfs/NorthStar%20NJNG%20Audit%20Final%20Report%206-26-14%20double%20sided.pdf.

[15] *Id.* at 108.

[16] Decision & Order: *In the Matter of the Verified Petition of the Retail Energy Supply Association to Reopen the Provision of Basic Gas Supply Service Pursuant to the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 Et Seq., and Establish Gas Capacity Procurement Programs* at 2, BPU Docket No. GO17121241 (Feb. 27, 2019) (describing RESA's petition).

[17] *Id.* at 4 (describing RESA's petition).

[18] Comment of Marathon Energy, submitted to Docket No. GO19070846, In the Matter of the Exploration of Gas Capacity and Related Issues (Oct. 21, 2019).

[19] In the states that EDF is familiar with, the competitive marketers are required to use the release capacity to deliver in periods of high demand, or return that capacity to the GDC through mandatory recall by the GDC.

EDF and NJCF respectfully suggest that the Board should update its gas supply procurement and gas utility overview processes with a longer-term focus and greater transparency. Under current procedures, the BPU's first significant review of long-term utility contractual commitments for pipeline transportation services occurs *after* new capacity is placed into service when the contract costs are requested through a Basis Gas Supply Service, or BGSS, proceeding. EDF and NJCF suggest that reforms should include earlier review of gas utility pipeline contracts *before* commencement of construction for new capacity. Moreover, a more robust planning process should include: (1) procedural changes to allow for increased stakeholder participation and input; (2) changes to how the BPU should review and consider gas supply information, by explicitly linking a utility's long-term gas supply plan to the ultimate costs that are recovered; and (3) changes to the types of information utilities should submit to better inform gas supply decision-making. Ratepayers and the public interest would be served by a more robust and transparent gas supply planning process.

a. The Board Should Engage in Heightened Review of Affiliate Relationships in the Context of Pipeline Development.

The Federal Energy Regulatory Commission has been unwilling to address affiliate relationships underlying the agreements with future shippers on a pipeline, commonly known as precedent agreements. Precedent agreements are often the primary basis for FERC pipeline certification orders.

FERC has suggested that the practice of gas utilities entering precedent agreements and relying on procurement decisions of local distribution companies is best left to state regulators. EDF and NJCF submit that the Board is empowered to review such matters and should assess whether it is prudent for gas utilities to take long term service on new pipelines, including those pipelines developed by the gas utilities' affiliates.

b. The Board Should Specifically Consider Non-Pipeline Alternatives.

We respectfully submit that the Board should be expecting or requiring that such non-pipeline alternatives be integrated into the utilities' and the state's formal planning and needs assessments as part of a prudent planning process. EDF and NJCF further submit that non-pipeline solutions can be compared to traditional solutions on an apples-to-apples basis, through quantitative and transparent cost/benefit analysis.

3. This Proceeding Should be Conducted in Furtherance of the State's Climate Goals.

Any natural gas supply planning process, including this proceeding, should be conducted in furtherance of the State's energy goals and emissions reduction targets. We respectfully suggest that New Jersey gas utilities, third-party suppliers, and the Board must update their approach to

handling gas supply questions, because a continued business-as-usual approach to gas expansion could hinder the State from meeting its emissions limits.

New Jersey is developing its 2019 Energy Master Plan ("EMP"), to "set forth a strategic vision for the production, distribution, consumption, and conservation of energy" that will enable the state to achieve 100% clean energy by 2050; and it recently strengthened its Global Warming Response Act to prioritize short-lived climate pollutants.[20] New Jersey's natural gas system is implicitly raised as an issue in the 2019 Draft EMP (in connection with the section on decarbonizing heat and the section on decarbonizing electric generation, both of which envision reduced reliance on natural gas, as well as in connection with the requirement that gas utilities reduce natural gas consumption). But to date, there remains a significant disconnect between New Jersey's natural gas policies and its ambitious climate goals.

Gas distributors should be required to demonstrate that their gas portfolio decisions conform to and are consistent with State climate policy and greenhouse gas reduction goals. EDF and NJCF respectfully suggest that the proceeding at hand, *In the Matter of the Exploration of Gas Capacity and Related Issues*, should incorporate consideration of the emissions impacts of the various pathways by which third-party suppliers procure capacity for customers. More efficient use of existing gas capacity infrastructure, where available, should be prioritized over construction of additional infrastructure that would impose stranded cost risks and/or make New Jersey's climate goals less attainable.

4. Conclusion.

EDF and NJCF appreciate the opportunity to comment on this proceeding and welcome future engagement as the process continues. We respectfully request the Board take the forgoing comments and accompanying affidavit of Greg Lander into consideration in Docket No. GO19070846.

Respectfully submitted,

Erin Murphy
Attorney, Energy Markets and Utility Regulation
Environmental Defense Fund
1875 Connecticut Ave. NW Suite 600
Washington DC, 20009
(202) 572-3525
emurphy@edf.org

N. Jonathan Peress

[20] Draft 2019 New Jersey Energy Master Plan, Policy Vision to 2050 at 20 (June 10, 2019), https://nj.gov/emp/pdf/Draft%202019%20EMP%20Final.pdf.

Senior Director, Energy Markets & Utility Regulation
Environmental Defense Fund
16 Tremont Street, Suite 850
Boston, MA 02108
(617) 406-1838
njperess@edf.org

Mary Barber
Director, Regulatory & Legislative Affairs
Environmental Defense Fund
257 Park Avenue South
New York, NY 10010
(202) 616-1351
mbarber@edf.org

Barbara Blumenthal, Research Director
Tom Gilbert, Campaign Director for Energy, Climate and Natural Resources
New Jersey Conservation Foundation
Bamboo Brook, 170 Longview Road
Far Hills, NJ 07931

Jennifer Danis
Staff Attorney
Columbia University School of Law
Environmental Law Clinic
435 West 116th Street
New York, New York 10027
Counsel to New Jersey Conservation Foundation

ATTACHMENT

EXPERT AFFIDAVIT OF GREGORY M. LANDER

EXPERT AFFIDAVIT OF GREGORY M. LANDER

PERSONALLY APPEARED before me, Gregory M. Lander, who, being first duly sworn did depose and say as follows:

I. Introduction

1. My name is Gregory M. Lander. My business address is 83 Pine Street, Suite 101, West Peabody, MA 01960.

2. I am President of Skipping Stone, LLC ("Skipping Stone"). From 1984 to present, I have maintained a deep familiarity with a wide range of pipeline transportation issues, beginning with access to pipeline capacity to make competitive sales, resolution of the pipeline take-or-pay contracting regime, pipeline affiliate marketer concerns, restructuring of the pipelines from merchants to transporters and thereafter, and definitions of what constituted a pipeline capacity "right" for the purposes of formulating the then newly commenced capacity release and capacity rights trading business process. I continue to be involved in nearly all facets of the capacity information and trading business as part of my duties at Skipping Stone. In addition, I have been the lead principal on all 50+ pipeline and storage mergers and acquisitions transactions as well as all pipeline and storage facility expansion projects for which Skipping Stone has been retained by potential purchasers and project sponsors to provide economic due diligence consulting and market analysis. In addition, I have testified before, participated in or assisted with proceedings before, state public utilities commissions and/or their staffs in the states of Maine, Massachusetts, Missouri, Virginia, South Carolina, California, Rhode Island and New Jersey with respect to infrastructure matters, integrated resource plans, and fuel cost recovery proceedings. Please refer to Exhibit __ (GL-1), which contains my current CV.

3. I graduated from Hampshire College in Amherst, Massachusetts, in 1977, with a Bachelor of Arts degree. In 1981, I began my career in the energy business at Citizens Energy Corporation in Boston, Massachusetts ("Citizens Energy"). I became involved in the natural gas business of Citizens Energy in 1983. Between 1983 and 1989, I served as Manager, Vice President, President and Chairman of Citizens Gas Supply Corporation (a subsidiary of Citizens Energy).

   Since 1994, I have also been a Services Segment board member of the Gas Industry Standards Board ("GISB") and its successor organization, the North American Energy Standards Board ("NAESB"). During the period 1994 to 2002, I served as a Chairman of the Business Practices Subcommittee, the Interpretations Committee, the Triage Committee, and several GISB/NAESB Task Forces. I am currently a Board Member of NAESB and have served continuously in that capacity since 1997.

   Skipping Stone, Inc. acquired TransCapacity in 1999, and since that time I have headed up Skipping Stone's Energy Logistics practice, where my specialization has been interstate pipeline capacity issues, information, research, pricing, acquisition due diligence and planning. In 2001, Skipping Stone launched CapacityCenter.com, a pipeline capacity information service. In 2004, Skipping Stone was acquired by

Commerce Energy Group, a national retail energy services provider. In 2005, I was appointed President of Skipping Stone, which operated as a wholly owned subsidiary of Commerce Energy Group. In 2008, I purchased substantially all of the assets of Skipping Stone and now operate essentially the same business as before the Commerce Energy transaction as Skipping Stone, LLC.

4. I started and ran an energy consulting firm, Landmark Associates, from 1989 to 1993, during which time I consulted on numerous pipeline open access matters, a number of Federal Energy Regulatory Commission ("FERC") Order No. 636 rate cases, pipeline certificate cases, fuel supply and gas transportation issues for independent power generation projects, international arbitration cases involving renegotiation of pipeline gas supply contracts, and natural gas market information requirements cases (FERC Order Nos. 587 *et seq*.). In 1993, I founded TransCapacity LP, a software and natural gas information services company.

5. I have filed testimony before the Massachusetts Department of Public Utilities, the Maine Public Utilities Commission, the Virginia Corporation Commission, the Missouri Public Service Commission, the California Public Utilities Commission, and the South Carolina Public Service Commission. I have also filed testimony in several FERC proceedings. Please refer to Exhibit GL-1, which contains a full list of case names and docket numbers in which I have participated as a witness.

6. I am submitting this affidavit on behalf of EDF. This affidavit and its accompanying exhibits were prepared by me or under my direct supervision and control, and I am familiar with all of the matters addressed herein.

II. Analysis of Gas Capacity in New Jersey

7. I have reviewed the New Jersey Board of Public Utilities' Notice creating Docket No. GO19070846, In the Matter of the Exploration of Gas Capacity and Related Issues.

8. I have reviewed the slides that Levitan & Associates presented at the October 1 meeting for this docket, and I have reviewed the complete report from which those slides were provided: Levitan & Associates, *Availability of Natural Gas Capacity to Meet New Jersey LDC Customer Needs*, prepared for New Jersey Natural Gas (June 10, 2019) ("Levitan Report").

9. I conducted an analysis of the pipeline capacity that exists to deliver natural gas to shippers in New Jersey. This analysis included an assessment of historic use of the gas capacity infrastructure and the contracts currently in effect for use of pipeline capacity with primary delivery rights to locations in New Jersey as well as gas capacity available to and based upon my analysis used to deliver gas to New Jersey. As part of this analysis, I compared my results to the results and conclusions in the Levitan Report. Please refer to Exhibit GL-2, which contain charts summarizing my analysis.

10. The conclusions from my analysis are detailed within Environmental Defense Fund's corresponding comments.

BEFORE THE
NEW JERSEY ENERGY MASTER PLAN COMMITTEE

AFFIDAVIT

The undersigned person, Greg Lander, on his oath, deposes and says:

I, Gregory M. Lander, of full age and upon my oath, depose and say:

1. I am the President of Skipping Stone, LLC and I work for Environmental Defense Fund as a consultant on a range of natural gas sector issues.

2. I have prepared the attached expert affidavit and certify that the statements set forth therein are true and accurate to the best of my knowledge and belief.

GREGORY M. LANDER

Sworn and subscribed before me
this 21st day of October, 2019

TAYLOR GOMES
Notary Public
Massachusetts
My Commission Expires
Apr 5, 2024

Greg Lander, President
Skipping Stone LLC

Professional Summary:

As President of Skipping Stone Inc., Greg Lander is responsible for Strategic Consulting in the mergers and acquisition arena with numerous clients within the energy industry. Generally recognized in the energy industry as an expert, he has advised and/or given testimony at numerous Federal Energy Regulatory Commission (FERC), State, arbitration, and legal proceedings on behalf of clients and has advised as well as initiated standards formation before the Gas Industry Standards Board (GISB) (predecessor to the North American Energy Standards Board (NAESB)). As Founder, President, and Chief Technology Officer of TransCapacity Limited Partnership, he was responsible for conceiving, planning, managing, and designing Transaction Coordination Systems utilizing Electronic Data Interchange (EDI) between trading partners. As a founding member of GISB, he assisted in establishing protocols and standards within the Business Practices, Interpretations and Triage Subcommittees.

Professional Accomplishments:

- Handled all Due Diligence for purchaser (Loews Corp) in acquisitions of two interstate pipelines, one natural gas storage complex, and ethylene distribution and transmission systems (Texas Gas Transmission, Gulf South Pipeline, Petal Storage, Petrologistics, and Chevron Ethylene Pipeline) most in excess of $1 Billion. Developed purchaser's business case model, including rate/revenue models, forward contract renewal models, export basis modeling and revenue models, and operating cost and capex models. Coordinated Engineering and Environmental Due Diligence Teams integrating findings and assessments into final Diligence Reports.
- Assisted major electric retailer in 9 states with business case development for entry into North Eastern U.S. Commercial & Industrial natural gas marketing business. Identified market share of incumbents; retail registration process, billing processes; utility data exchange rules and procedures and developed estimates of addressable market by utility.
- Handled all economic Due Diligence for purchaser of large minority stake in Southern Star Gas Pipeline. Developed purchaser's business case model, including rate/revenue models and forward contract renewal models, assessed potential competitive by-pass of asset located in "pipeline alley", developed revenue models and operating cost and capex models. Coordinated Engineering, Pipeline Integrity, and Environmental Due Diligence Teams integrating findings and assessments into final Diligence Reports.
- Developed post-acquisition integration plans for inter-operability and alterations to system operations to take advantage of opportunities presented by

synergistic facilities' locations and functions and complimentary contractual requirements. Implementation of plan resulted in fundamental changes to systems operations and improvement in systems, net revenues, capacity capabilities, and facilities utilization.

- Handled all economic analysis, modeling, and systems capability due diligence for potential purchaser in several preliminary or completed yet un-consummated pre-transaction investigations involving Panhandle Eastern, Northern Border, Bear Paw, Florida Gas, Transwestern, Great Lakes, Guardian, Midwestern, Viking, Southern Star, Columbia Gas, Midla, Targa (No. Texas), Ozark, ANR, Falcon Gas Storage, Tres Palacios, Rockies Express, Norse Pipelines, Southern Pines, Leaf River, LDH (Mont Belvieu), Kinder Morgan Interstate, Trailblazer, Rockies Express and South Carolina Gas Transmission.
- Post Texas Gas Transmission and Gulf South Pipe Line acquisitions, assisted with all investigations involving assessments and proposals for realizing potential synergies with/from asset portfolio; rate case strategy development and alternate case development; and strategies around contract renewal challenges.
- Headed up due diligence team in acquisition of multi-state retail (residential) natural gas and electric book by Commerce Energy.
- Headed up due diligence team in acquisition of multi-state retail (C&I) natural gas book by Commerce Energy.
- Served as lead consultant for consortium of end-users, Local Distribution Companies, Power Generators, and municipalities in several major FERC Rate Cases, service restructuring, and capacity allocation proceedings involving a major Southwestern U.S. Pipeline.
- Served as lead consultant and expert witness for consortium of end-users, Local Distribution Companies, Power Generators, and municipalities in major FERC rate case under litigation involving decades-long disputes over service levels, cost allocation, and rate levels.
- Served as lead consultant for consortium of end-users and municipalities in major FERC rate case involving implementation of proposed rate design, cost allocation, and rate level changes.
- Expert witness in numerous gas and electric utility rate cases; integrated resource plans; litigated service offerings and cost approval and allocation proceedings for public interest clients. Controversies, often involving hundreds of millions to billions of dollars over cases' time horizons, are common.
- Developed and critiqued Rate Case Models for several pipeline proceedings and proposed proceedings (as consultant variously to both pipeline and shippers). Activities included modeling (and critiquing) new services' rates, costs, and revenues; responsibilities included development of various alternative cost allocation/rate designs and related service delivery scenarios.

- Handled all market assessment, forward basis research, and transportation competition modeling for several proposed major pipelines and laterals, including two $1 Billion+ Greenfields projects that went into construction and operation providing new outlets for growing southwestern shale production. (Gulf Crossing and Fayetteville Lateral).
- Assessed supply and demand balance for Southwestern US (OK, TX, Gulf Coast and LA) including assessment of future demand and supply displacement associated with West Texas wind power development and its likely impact on pipeline export capacity from region.
- Assessed supply and demand balance for Northeast to Gulf Coast capacity additions including assessment of Gulf Coast demand and export growth and its likely impact on forward basis.
- Assessed start-up gas supply needs for Appalachian coal fired power plant, resulting in installation of on-site LNG storage and gasification to address lack of enough firm pipeline capacity to meet need.
- Assessed installed and projected wind-turbine capacity in ERCOT and its eventual impact on Texas electric market as wind power output approaches minimum ERCOT load levels.
- Designed and developed EDI based data collection system, data warehouse and web-based delivery system (www.capacitycenter.com) for delivering capacity data collected from pipelines to shippers, marketers, traders, and others interested in capacity information to support business operations and risk-management requirements.
- Assisted client in developing proposals to increase pipeline capacity responsiveness and proposed market fixes that would create price signals around sub-day non-ratable flows, including rate proposals, sub-day capacity release markets, and measures to address advance reservation of capacity for electric generation fuel to meet sub-day generation demands.
- Developed “universal capacity contract” data model for storage of all interstate capacity contract transactions from all interstates in single database.
- Led design effort culminating in FERC-mandated datasets defining pipeline capacity rights, (including receipt capacity, mainline capacity, delivery capacity, segmentation rights, in and out of path capacity rights), Operationally Available Capacity, Index of Customers, and Transactional Capacity Reports (through GISB).
- Assembled consortium of utilities to investigate and develop large high-deliverability salt storage cavern in desert southwest (Desert Crossing). As LLC’s Acting Manager, was responsible for developing business case and economic models; handling all partner issues and reporting; coordinating all field engineering, facilities design, planning and siting; and managing all environmental, legal, engineering and regulatory activities. Wrote FERC Tariff. Brought project to NEPA Pre-Filing Stage and conducted non-binding Open

Season, as well as assisted with prospective shipper negotiations. Project cancelled due to 2001 "California Energy Crisis" and contemporaneous Enron and energy trading sector implosions.

- Designed comprehensive retail energy transaction and customer acquisition data model, process flow, and transaction repository for web-based customer acquisition and customer enrollment intermediary.
- Experienced in negotiation and drafting (from both seller side and buyer side) of firm supply, firm transportation, firm storage, and power supply and capacity agreements for numerous entities including project financed IPPs and for new greenfield pipeline and expansion of storage system.
- Provided market entry assessment for large international manufacturing and service company seeking to enter U.S. micro-grid, combined heat and power, and integrated solar, gas & battery markets.
- Conducted interstate pipeline capacity utilization analysis for New England following winter of 2013/2014 price fly-up.
- Conducted PJM East interstate gas pipeline capacity utilization and comparative analysis between pipelines with standard NAESB nominating cycles versus those with near hourly scheduling practices.
- Conducted requirements analysis for several firms pursuing software selection of energy transaction systems.
- Instrumental in the formation of the GISB. Member of industry team that lead the development of the proposal for and bylaw changes related to the formation of NAESB.
- Provided support to numerous clients and clients' attorneys in disputes involving capacity contracts, capacity rights allocations, tariffs, rate cases, intellectual property rights cases, and supply contract proceedings as both up-front and behind the scenes expert.

Associations and Affiliations:

Longest serving Member of Board of Directors for NAESB and prior to that GISB – 23 years.

GISB Committees: Former Chairman, Business Practices Subcommittee – drafted approximately 450+ initial industry standards that are now codified FERC regulations (Order 567); Former Chairman, Interpretations Subcommittee – drafted and led adoption process for first 50+ standards interpretations; Former Chairman, Triage Subcommittee; Title Transfer Tracking Task Force; Order 637 GISB Action Subcommittee; and industry Common Codes Subcommittee. Currently member of NAESB Wholesale Gas Quadrant Executive Committee and of NAESB Parliamentary Committee

Past and Affiliations and Associated Accomplishments:

1981-1989: One of five initial employees of Citizens Energy Corporation, Boston Mass. Responsible for starting and growing Citizens Gas Supply, one of the first independent gas marketers of the early 1980's, into $200MM+ annual operation. Successfully lobbied for pipeline Open Access (Orders 436 and 636), introduction of pipeline Affiliated Marketer rules of conduct (Order 497), and Open Access to pipeline operational information (Order 563).

1989-1993: Independent Consultant - Natural Gas Projects, Pipeline Rate Cases, Project Financed Contract negotiations, and Independent Power markets

1993 – 1999: Founder and President, TransCapacity Service Corp – Software products and services related to pipeline capacity trading, nomination, and contracting. Raised $17 MM from industry player to establish TransCapacity. Successfully lobbied for Pipeline restructuring and formation of capacity release market (Order 636). Sold to Skipping Stone.

1999 – 2004: Principal and Partner, Skipping Stone – Energy market consultants

2004 – 2008: President of Skipping Stone following purchase of Skipping Stone by Commerce Energy, Inc.

2008: Repurchased Skipping Stone from Commerce Energy, Reformulated Skipping Stone as LLC with Peter Weigand

2008 to Present: President and Partner, Skipping Stone. In addition to handling book of clients, responsible for all Banking, Accounting, Operations, Risk Management and contract matters for Skipping Stone.

Education:

1977: Hampshire College, Amherst, MA; Bachelor of Arts

Publication:

2013: Synchronizing Gas & Power Markets - Solutions White Paper

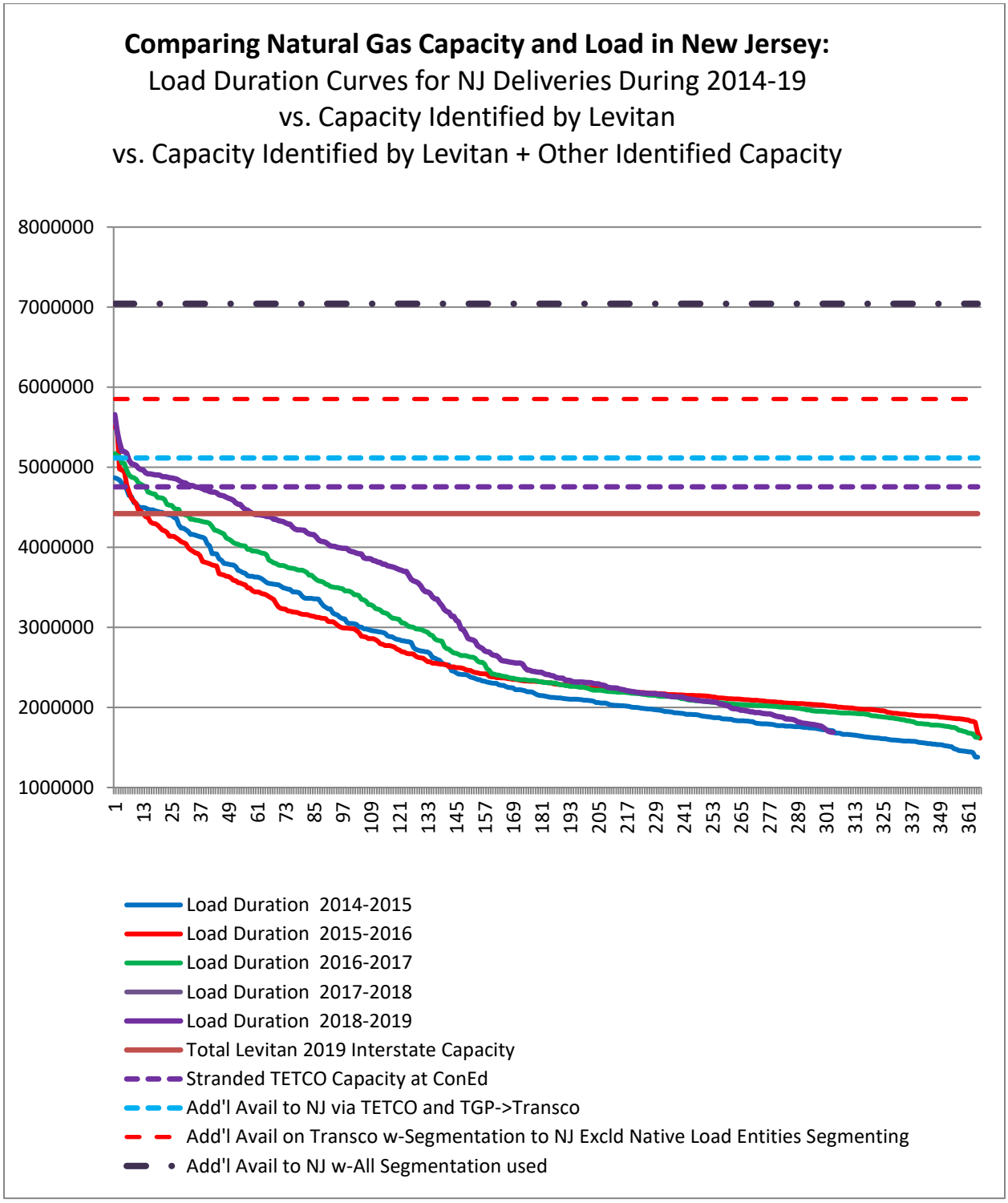
Expert Testimony of Gregory M. Lander

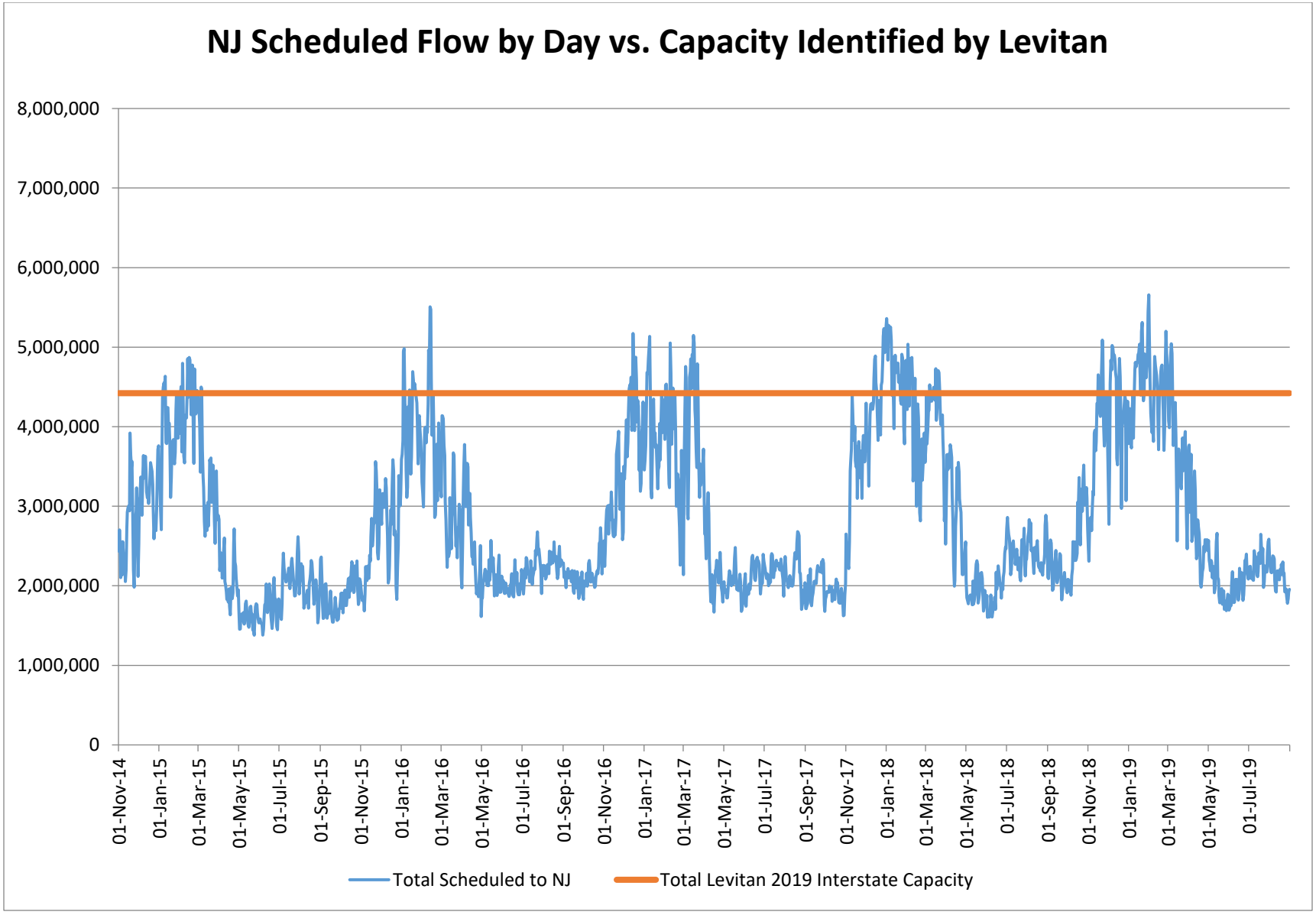
Name of Case	Jurisdiction	Docket Number	Date
El Paso Natural Gas Company	Federal Energy Regulatory Commission	RP04-251-000	May 3, 2004 (Testimony)
El Paso Natural Gas Company	Federal Energy Regulatory Commission	RP08-426-000	May 19, 2009 (Answering Testimony) June 2, 2010 (Supplemental Answering Testimony)
El Paso Natural Gas Company	Federal Energy Regulatory Commission	RP10-1398-000	June 28, 2011 (Answering Testimony) March 4, 2014 (Answering Testimony)
Petition of Boston Gas Company and Colonial Gas Company, each d/b/a National Grid for Approval by the Department of Public Utilities for a Firm Transportation Contract with Algonquin Gas Transmission Company	Massachusetts Department of Public Utilities	13-157	December 12, 2013 (Direct Testimony)
Petition of Boston Gas Company d/b/a National Grid for Approval by the Department of Public Utilities of a twenty-year Firm Transportation Agreement with Tennessee Gas Pipeline Company, involving an expansion of Tennessee's interstate pipeline running from Wright, New York to	Massachusetts Department of Public Utilities	15-34	June 5, 2015 (Direct Testimony)

Dracut, Massachusetts, known at the Northeast Energy Direct Project			
Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval by the Department of Public Utilities of a twenty-year Firm Transportation Agreement with Tennessee Gas Pipeline Company, involving an expansion of Tennessee's interstate pipeline running from Wright, New York to Dracut, Massachusetts, known at the Northeast Energy Direct Project	Massachusetts Department of Public Utilities	15-39	June 5, 2015 (Direct Testimony)
Petition of The Berkshire Gas Company for Approval of a Precedent Agreement with Tennessee Gas Pipeline Company, LLC, pursuant to G.L. c. 164, § 94A	Massachusetts Department of Public Utilities	15-48	June 5, 2015 (Direct Testimony)
Investigation of Parameters for Exercising Authority Pursuant to Maine Energy Cost Reduction Act, 35-A M.R.S.A. Section 1901	Maine Public Utilities Commission	2014-00071	July 11, 2014 (Direct Testimony)
Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 *et seq*.	Virginia Corporation Commission	PUR-2017-00051	August 11, 2017 (Direct Testimony)
In the Matter of the Laclede Gas Company's Request to Increase Its Revenues for Gas Service In the Matter of the Laclede Gas Company	Missouri Public Service Commission	File No. GR-2017-0215 File No. GR-2017-0216 (Consolidated)	September 8, 2017 (Direct Testimony) November 21, 2017 (Surrebuttal Testimony)

d/b/a Missouri Gas Energy's Request to Increase Its Revenues for Gas Service			
Application of San Diego Gas & Electric Company (U902M) for Authority, Among Other Things, to Update its Electric and Gas Revenue Requirement and Base Rates Effective on January 1, 2019. Application of Southern California Gas Company (U904G) for Authority, Among Other Things, to Update its Gas Revenue Requirement and Base Rates Effective on January 1, 2019.	California Public Utilities Commission	Application 17-10-007 Application 17-10-008 (Consolidated)	May 14, 2018 (Direct Testimony) June 8, 2018 (Rebuttal Testimony)
Application of Virginia Electric and Power Company to revise its fuel factor pursuant to § 56-249.6 of the Code of Virginia	Virginia State Corporation Commission	PUR-2018-00067	June 14, 2018 (Direct Testimony)
Application of Southern California Gas Company (U 904 G) and San Diego Gas & Electric Company (U 902 G) Regarding Feasibility of Incorporating Advanced Meter Data Into the Core Balancing Process	California Public Utilities Commission	Application 17-10-002	July 2, 2018 (Direct Testimony)
Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 *et seq*.	Virginia Corporation Commission	PUR-2018-00065	August 13, 2018 (Direct Testimony)
In the Matter of Constellation Mystic Power, LLC	Federal Energy Regulatory Commission	ER18-1639	August 23, 2018 (Answering Testimony) September 4, 2018 (Cross Answering

			Testimony)
South Carolina Electric and Gas Company Application for Approval of Merger with Dominion Resources	South Carolina Public Service Commission	2017-370-E; 2017-305-E; and 2017-207-E	September 24, 2018 (Direct Testimony)
In re: Annual Review of Base Rates for Fuel Costs of South Carolina Electric and Gas Company	South Carolina Public Service Commission	2019-2-E	March 19, 2019 (Direct Testimony)


Comparing Natural Gas Capacity and Load in New Jersey:
Load Duration Curves for NJ Deliveries During 2014-19
vs. Capacity Identified by Levitan
vs. Capacity Identified by Levitan + Other Identified Capacity
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
1
13
25
37
49
61
73
85
97
109
121
133
145
157
169
181
193
205
217
229
241
253
265
277
289
301
313
325
337
349
361
Load Duration 2014-2015
Load Duration 2015-2016
Load Duration 2016-2017
Load Duration 2017-2018
Load Duration 2018-2019
Total Levitan 2019 Interstate Capacity
Stranded TETCO Capacity at ConEd
Add'l Avail to NJ via TETCO and TGP->Transco
Add'l Avail on Transco w-Segmentation to NJ Excld Native Load Entities Segmenting
Add'l Avail to NJ w-All Segmentation used


NJ Scheduled Flow by Day vs. Capacity Identified by Levitan
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
01-Nov-14
01-Jan-15
01-Mar-15
01-May-15
01-Jul-15
01-Sep-15
01-Nov-15
01-Jan-16
01-Mar-16
01-May-16
01-Jul-16
01-Sep-16
01-Nov-16
01-Jan-17
01-Mar-17
01-May-17
01-Jul-17
01-Sep-17
01-Nov-17
01-Jan-18
01-Mar-18
01-May-18
01-Jul-18
01-Sep-18
01-Nov-18
01-Jan-19
01-Mar-19
01-May-19
01-Jul-19
Total Scheduled to NJ
Total Levitan 2019 Interstate Capacity