**STATE OF NEW JERSEY**
**BOARD OF PUBLIC UTILITIES**

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| In the Matter of Natural Gas Commodity and Delivery Capacities in the State of New Jersey – Investigation of the Current and Mid-Term Future Supply and Demand | ) | Docket No. GO20010033 |

**COMMENTS OF NRG ENERGY, INC.**

NRG Energy, Inc. ("NRG") submits these comments in the above-captioned proceeding on the Final Report: Analysis of Natural Gas Capacity to Serve New Jersey Firm Customers prepared by London Economics International LLC ("Final Report"). NRG supports the New Jersey Board of Public Utilities ("the Board") in its review of natural gas capacity in the State of New Jersey, however, the Final Report appears to be flawed or missing data in some critical areas as discussed in more detail below.

**Who We Are**

With a regional office in Princeton, New Jersey, NRG is a leading integrated power company in the U.S. As a Fortune 500 company, NRG creates value through best-in-class operations, reliable and efficient electric generation, and a retail platform serving electricity and natural gas to residential, commercial, and industrial customers. NRG's retail brands maintained one of the largest combined competitive retail energy portfolios in the U.S. with 152,000 GWh of electricity and 914 MMDth of natural gas sold in 2020 and approximately six million customers served. In addition, NRG has approximately 23,000 MW of generation resources throughout the U.S., and transports 6.6 Bcf/day of natural gas across North America. The company has numerous licensed Third-Party Suppliers ("TPSs") that are actively serving natural gas and electricity customers across New Jersey.[1]

**Executive Summary**

There are many factors at play surrounding natural gas capacity in New Jersey. While Non-Pipeline Alternatives ("NPAs") can help to alleviate future natural gas needs, additional pipeline capacity and repairs to the distribution system will still be needed, at least in the near term. Under existing capacity conditions, a critical weather event or pipeline outage would cause major disruptions to the customers of New Jersey.

[1] *Reliant Energy Northeast LLC d/b/a NRG Home/NRG Business* ESL-0093 and GSL-0176; *Green Mountain Energy Company* ESL-0233; *Energy Plus Holdings LLC* ESL-0087*; Energy Plus Natural Gas LLC GSL-0100; XOOM Energy New Jersey, LLC* ESL-0115 and GSL-0112; *Stream Energy New Jersey, LLC* ESL-0109 and GSL-0120; *Direct Energy Services, LLC* ESL-0078 and GSL-0088; *Direct Energy Business, LLC* ESL-0165 and GSL-0145; *Direct Energy Business Marketing, LLC* ESL-0142 and GSL-0128; and *Gateway Energy Services Corporation* ESL-0166 and GSL-0146.

**The Final Report Found That Under the Most Likely Set of Future Outcomes, Sufficient Natural Gas Capacity Exists While Current Data Shows Unlikely Outcomes are the New Normal**

The key findings of the Final Report show that "under the most likely set of future outcomes, sufficient natural gas capacity exists."[2] The Final Report then goes on to state, "only in a situation of extremely high demand (for example, winter weather which would be expected to occur one day in 90 years), or in the case of a large pipeline outage, would the system fall short."[3] According to a report by the United Nations, there has been a "staggering rise" in the number of extreme weather events over the past 20 years, driven largely by rising global temperatures and other climatic changes.[4] As a matter of fact, the number of disasters has increased by a factor of five over the 50-year period, driven by climate change, more extreme weather and improved reporting.[5] Look at the number of devastating storms that have happened in the tri-state area in the last ten years, not to mention other weather events like Winter Storm Uri that impacted the supply chain of natural gas, including gas pipelines in Texas last year. Even though the Final Report touches on this increase in extreme weather events,[6] it does not place enough significance on this data. Ignoring these facts does not paint a clear picture of the actual state of affairs for New Jersey's future gas capacity.

In addition, a pipeline outage could be detrimental to the system, crippling the entire natural gas industry. A perfect example of this is the Colonial Pipeline cyberattack that occurred last year. On May 7, 2021, Colonial Pipeline, an American oil pipeline system that originates in Houston, Texas, and carries gasoline and jet fuel mainly to the Southeastern United States, suffered a ransomware cyberattack that impacted computerized equipment managing the pipeline. As a result, the pipeline was completely out of commission for six days causing gasoline shortages in the South. Imagine the impact a similar attack could have on a natural gas pipeline delivering natural gas to the Northeast. Many customers could wind up with no heat on the coldest of days causing physical illnesses and other property damage like frozen or burst pipes. An upstream pipeline integrity issue or cyberattack could be catastrophic unless additional pipeline capacity is made available.

The Final Report categorizes these as lower probability high impact events and suggests that a combination of NPAs could be the solution to mitigate these events. It also suggests building electrification could have a substantial impact on these events. However, we believe that these measures would not be enough to keep gas flowing if there is a major weather event or other emergency.

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[2] Final Report: Analysis of Natural Gas Capacity to Serve New Jersey Firm Customers prepared by London Economics International LLC ("Final Report"); page 15.
[3] *Id*.
[4] The human cost of disasters: an overview of the last 20 years (2000-2019); https://www.undrr.org/publication/human-cost-disasters-overview-last-20-years-2000-2019.
[5] Weather-related disasters increase over past 50 years, causing more damage but fewer deaths; https://public.wmo.int/en/media/press-release/weather-related-disasters-increase-over-past-50-years-causing-more-damage-fewer.
[6] Final Report; page 129.

**Using Non-pipeline Alternatives is a Partial Solution If Policies Are Well Balanced and Allow Equal Participation by Third Parties**

The Final Report identifies eight different NPAs that could be utilized to minimize the impacts of a capacity constraint in the market. Four of the NPAs are on the demand side meaning that changes would occur at customers' homes and business and the other four are supply side, meaning that the changes would occur either on the utility's distribution system or through changes in the way natural gas is produced. NRG is supportive of these NPAs if they allow equal participation for all third parties and are not monopolized by the utilities. NRG provides a number of these products to our customers already and will continue to do so as long as the rules are fair and balanced. Utilities should be encouraged to invest in distribution/transmission infrastructure but should leave the development of these products and services to competitive markets.

In addition, it appears that the analysis done by London Economics International LLC ("LEI") graded the supply side options (renewable natural gas ("RNG"), green hydrogen, liquefied and compressed natural gas and advanced leak protection) less favorably than the demand side options (energy efficiency, voluntary demand response programs, direct load control, and building electrification).[7] NRG does not necessarily agree with the grading criteria that were used, as advanced leak detection should have been rated more favorably due to the material impacts it could have on the system. Other supply side NPAs scored low for factors that are not correct. For instance, RNG scored a "0" for the "Build Upon Current Capabilities" criterion. However, RNG could be transported via existing pipelines, so this rating makes little sense. The Final Report thus found that the demand side NPAs are more consistent with the state goals. However, NRG contends that both demand side and supply side NPAs are equally important as the state strives to meet its aggressive clean energy targets.

One key factor missing from the analysis was the cost effectiveness of these NPA programs.[8] As a matter of fact, in the category of cost effectiveness, each of the options was rated as "to be determined." Arguably, the cost effectiveness of each of these options is a critical piece of information that should be used to inform policy and regulations. Cost effectiveness is also important for ratepayers so they can have affordable energy. Some of these NPAs could have a large impact on the consumers' bills.

Another missing piece in the analysis is the relative volume contribution of each NPA and how each NPA's volumes would meet any shortfall in capacity. Each of these items brings a different functionality and value to the table; therefore, they should not be assigned equal value. Energy efficiency and electrification scored highly in the analysis, but this potential advantage is of no avail should customers fail to improve their energy efficiency or electrify their homes and business. Customers may not be able to afford the upfront cost outlays required to implement these changes or may not be interested at this

[7] Final Report, Figure 2, NPAs scored against BPU goals; page 14.
[8] *Id*.

time. The report cannot assume that because energy efficiency and electrification programs exist consumers will take advantage of them. There are currently no mandates in place that require consumer adoption of these programs or related behavioral changes.

The Final Report does not seem to take into consideration emerging technologies – especially on the supply side. In some cases, this would result in a decline in effective capacity, while in others there would be an increase. One example of the former is RNG and the corresponding technology for recovering gas from sources such as landfills, wastewater treatment facilities, and agricultural sites. The recovery technology is newly developing and there is not yet sufficient data to suggest that the recovery operations would continue uninterrupted by a critical day event such as a sub-zero peak day. Today, even conventional natural gas and Marcellus Shale wells may freeze in extreme temperatures. There is just not enough information and research available to determine how specific weather events will impact these technologies and the reliability of the market.

Conversely, the Final Report also fails to incorporate technologies that would result in an effective increase in capacity. For example, the Final Report does not consider the impacts that battery storage, both at grid scale and on a distributed basis, could have on the market. Battery storage undoubtedly will be needed if large scale electrification continues to move forward. Battery storage did not make the list of NPAs that LEI analyzed even though it is an emerging and increasingly viable solution. Similar to the other NPAs mentioned above, the implementation and development of battery storage should be left to competitive markets and not to utilities.

**Fixing Leaks Will Provide a 30% Reduction in GHG Emissions; Why Not Fix This First?**

While the Final Report calls out Advanced Leak Protection as a supply side NPA, not enough emphasis is placed on such a critical improvement. As a matter of fact, this item only scored a "4" in the analysis – much lower than energy efficiency. The pipeline distribution system in New Jersey is aged and prone to leaks. The dilapidated condition of the distribution system presents problems from both a reliability and an environmental perspective. As stated in the Final Report:

> 2.4.3.2.2 Advanced leak detection
> Natural gas pipelines made from cast iron are characteristic of older gas infrastructure and have been found to be among the most leak-prone of the pipeline materials. As of 2019, New Jersey's GDCs accounted for the most distribution pipelines made from cast iron of any state in the US, totaling 3,911 miles of pipe. This aging infrastructure presents a significant potential source for methane leaks; for example, approximately 30% of New Jersey's total methane emissions stem from the natural gas transmission and distribution system. In 2019, this equated to an estimated 2 million metric tons ("MMT") of carbon dioxide equivalent ("CO2e") emitted from pipeline leaks statewide per year, or approximately 91 MDth/d. [9]

[9] *Id*. at 78.

If New Jersey were to fix the leaks in the natural gas and transmission distribution system, there would be a 30% reduction in GHG emissions as indicated in the Final Report. Clearly this one improvement would make a huge impact to the state of New Jersey and should be considered first – even before all the other emerging fuel choices outlined in the supply side NPAs. The distribution system is in desperate need of modernization and should be prioritized over other solutions.

**Non-New Jersey Activity Can Impact Available Pipeline Capacity and Should be Considered More Closely**

As stated in the Final Report, more capacity has become available through New Jersey to transport the Marcellus Shale from Pennsylvania to New York and New England. While this capacity is helpful, it is simply not enough. The cancellation of the PennEast Pipeline Project was a disappointment but accurately reflects public resistance against building new capacity. The 118-mile, 36-inch pipeline would have brought in a significant amount of gas from Pennsylvania to New Jersey. The project filed for a FERC certificate in 2015, which was granted in 2018. Nevertheless, the pipeline faced strong resistance from various groups, including the state of New Jersey, which challenged the project on a rare eminent domain vs. sovereign immunity issue. The case went all the way to the U.S. Supreme Court, where the Court ruled in favor of the Pipeline in June 2021. Despite the win, the Pipeline announced that it was cancelling the project in September 2021 in the face of increasing costs and additional regulatory resistance. It is likely that any new pipeline project will face even stronger regulatory headwinds, further demonstrating the possibility of a gas availability shortfall if NPAs and other measures are simply not enough.

There is also something else to be considered. If New Jersey continues to take a stand against natural gas and prevents future new pipelines and pipeline expansions from being developed, while other states purchase larger quantities of less expensive Marcellus Shale gas from Pennsylvania and utilize more pipeline capacity to transport it, there will be less available capacity for gas deliveries to the people of New Jersey.

**For the Foreseeable Future Natural Gas Will Continue to be Required in the State**

The Final Report discusses the impact of energy efficiency programs and building electrification. It is important to keep in mind that customers are still using natural gas and will be for the foreseeable future. While energy efficiency is a great step in the right direction, there is no mandate or guarantee that customers will take advantage of these measures and the amount of load that will be impacted is therefore unknown. Likewise, while the State's Energy Master Plan discusses building electrification and recommends several approaches, there is currently no mandate requiring buildings to take action. While NRG does not believe the role of government is to pick technology winners and losers, and thus should not mandate consumers to adopt one technology over another, NRG does not oppose government

encouraging voluntary conversion of buildings through various policies or incentives. Even with voluntary electrification, natural gas will continue to be utilized for quite some time in the state as customers and suppliers gradually transition away from natural gas. During this transition, capacity needs to adequately cover existing load and industry cannot rely on load reduction measures whose impact is uncertain in the case of a critical event.

**If the Board Determines that Adequate Capacity Exists, Gas Capacity Release Programs Should be Developed for Third Party Suppliers**

If the Board agrees with the Final Report and determines that the natural gas capacity in the State is sufficient to meet design day, the Board should consider approving the petitions filed by the Retail Energy Supply Association ("RESA")[10] requesting that Gas Distribution Utilities ("GDCs") establish capacity release programs. While some of the GDCs have current gas capacity release programs they tend to be generic and outdated, and not well-subscribed, utilized, or easily understood by TPSs. In addition, customers who shop with a TPS are often paying twice for pipeline capacity (once to the GDC through delivery charges and once to the TPS).

A well-designed capacity release program includes the following: equitable access to all utility supply receipt points (not just a select few), a prorated share of capacity, storage (both physical and potentially managed) and peaking assets based upon peak day load served, and costs that are passed through in a manner intended to create an even ground for both the GDCs and TPSs. The cost structure also needs to be clearly defined annually to avoid any unexpected costs and should include capacity cost (weighted average cost of capacity or max rate), storage demand charges, storage commodity charges, peaking demand charges, and peaking commodity charges if applicable. New York has a well-designed capacity market and NRG recommends using New York as an example of what works. As a matter of fact, two of the utilities in New York have recently added more capacity through an RFP process to meet peak demand.

The Final Report includes discussion surrounding the load served by TPSs. LEI cannot determine if TPSs have enough firm transportation capacity to meet their firm demand.[11] If all TPS load were suddenly switched back to the utilities, the utilities may be capable of handling only some, but not all, of the TPS

[10] RESA presented similar arguments in a November 27, 2017, petition to the Board and a March 5, 2018 amended petition requesting a formal proceeding to establish a mechanism for the gas distribution companies in the State to release natural gas capacity to TPSs. At that time, NRG was a member of RESA and participated in and supported the Petition. *See* RESA Verified Petition Seeking to Reopen the Matter of 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, filed November 27, 2017 (BPU Docket No. GO17121241); RESA Amended Verified Petition Seeking to Reopen the Matter of 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; Retail Energy Supply Association, filed March 5,2018 (BPU Docket No. GO17121241).

[11] Final Report; page 35.

load.[12] If GDCs provided a well-run capacity release program, in the event of a TPS default, both the capacity and customers of the TPS would go back to the GDC, ensuring that adequate capacity exists.

**Conclusion**

NRG appreciates the opportunity to comment on this complex matter and appreciates the BPU's interests in the natural gas capacity of New Jersey. As a trusted and experienced natural gas marketer and supplier, NRG plans to remain a knowledgeable resource in this discussion.

**Respectfully submitted,**

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[12] *Id*. at 36.