**Draft Condensed Report – Review of SSC Comments**

**Note: Obvious typos (missing spaces, misspellings, etc.) are not included in this list. Additional changes may be made to commented text changes to resolve grammar, acronyms, stylization, etc. In addition to changes resulting from SSC comments, other clarifying changes have been added to the report where appropriate. Page numbers refer to the draft Phase II Report (Intro & Summary) posted on 5/1/15.**

| # | Commenter | Comment | LAI Response |
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| 1 | NFG | Page 24: "The purpose of the Target 2 analysis is to evaluate the adequacy of the interstate gas pipeline network to meet the coincident peak demands of RCI customers and gas-capable generators across the Study Region." Comment: The study comments over the concern for the pipeline industry to serve coincident requirements of gas utilities and power generators on peak days. On many occasions, we've pointed out that "service" is to our firm shippers who have paid for the transportation systems and in most cases power generators are not in that class. Their level of service is therefore - by FERC tariff - inferior to firm. | The testing of coincident peak RCI and generator demands for natural gas is built into the Statement of Work for this study. It is not our intention to suggest that it is the pipelines' responsibility to meet these coincident demands in the absence of firm contracts for the required amount of capacity. The purpose of the study is to provide the PPAs with an analysis of infrastructure adequacy in the context of coincident peak demands so that they can use that information going forward. |
| 2 | NFG | Page 25-26: "Across the Study Region, pipeline and storage infrastructure capacity is sized to meet the contractual demand of firm customers during peak demand conditions, with little or no reserve capacity. This is in contrast to the bulk electric system design basis, which ensures grid reliability by including a reserve margin to mitigate the impact of low-probability contingency events." Comment: The study points out that while the bulk power grid has been designed and built with a reserve capacity, the pipeline system has not. In the case of the pipeline systems, the existing shippers would likely not be in support of funding this suggested additional capacity, nor does FERC allow the pipelines to include without at risk provisions. | We acknowledge that the absence of reserve pipeline capacity is the result of current regulations and contracting protocols. This statement is intended to provide system design context for the two industries. It is not our suggestion that existing firm customers should sponsor the construction of reserve capacity. |
| 3 | NFG | In the southeast regions, many power generators do hold firm capacity (granted their load factors are much higher than northeast generators). In some cases the ISO holds capacity for the generators. There are far less interruptions to gas fired generation in these regions. | Target 1 examined the existing contracts held by generators in each of the PPAs, including TVA's contracts for capacity to support generator operation. Target 2 results are consistent with this paradigm, in that TVA does not have affected generation. |
| 4 | NFG | Page 27: "Order No. 809 also requires pipelines to make multi-party firm transportation contracts available if requested by a shipper, which will provide shippers, including gas-fired generators, with greater flexibility and facilitate more efficient use of pipeline capacity." Comment: The study points out that FERC Order 809 encourages multi-party transportation contracts to provide multiple shippers the flexibility to share interstate pipeline capacity to serve complementary needs in an efficient manner. (had not heard that before) FERC Order 809-->> https://www.ferc.gov/whats-new/comm-meet/2015/041615/M-1.pdf | Page 91, item 129 of FERC Order No. 809 supports this interpretation, stating in part: "This contracting flexibility has been utilized by entities to meet their collective load obligations in a more efficient manner. For example, certain affiliated utilities of Southern Company, which have long operated as an integrated public utility electric system through the joint commitment and economic dispatch of their gas-fired generating resources, have entered into a single interstate natural gas pipeline transportation service agreement, with Southern Company Services (their affiliated agent) arranging for the gas supplies used in their generating facilities." |

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| 5 | NFG | Highlights the pipeline building boom in the Marcellus region for new pipeline capacity and the existence of high deliverability storage especially in the PJM region (neither of which the power generators hold service contracts) | We acknowledge that generators have not contracted for pipeline expansion capacity out of Marcellus to any significant degree. Generators may however be able to access this transportation and storage capacity through capacity release or other third-party arrangements with producers and/or marketers who do hold capacity. |
| 6 | NFG | Page 29: "Because generation companies in Ontario have firm transportation rights, operational issues pertaining to daily imbalances and non-ratable takes are rarely problematic." Comment: Dawn Storage (156 bcf) proximity likely helps | The parameters of the Dawn and Tecumsah storage fields were included in the Target 1 report. We acknowledge the contribution of storage to the natural gas infrastructure adequacy results in Ontario. |
| 7 | NFG | Page 31-32: In ISO-NE "The affected gas-fired generation is mitigated fully in 2018 and 2023 when high daily spot market gas prices place oil-fired generation, and, to a much lesser extent, coal-fired generation, in merit." Comment: PROBLEM SOLVED? The daily spot market price in NE is not high due to commodity shortage, but is due to transportation shortages and will continue to show this basis differential until pipeline capacity is built. Chicken or Egg? | The quoted sentence is referencing the results of sensitivity #1, which tested gas prices from January 27, 2014. We acknowledge that transportation constraints are a primary factor driving high gas spot prices in New England. Sensitivity #13, which tested incremental gas infrastructure projects, including significant build-out into New England, also mitigated the amount of affected generation in New England. |

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| 8 | NFG | Page 46: "Many of these same issues were faced by the electric transmission system some years ago. Nevertheless, the transmission system was able to evolve from a pure physical system with long term reservations of physical capacity to a system which today maximizes the efficiency of the infrastructure by, in a number of PPAs, treating all load as network service and establishing a dynamic pricing system to assign the costs of constraints to the cost causers in an efficient and equitable manner. The net effect is that users of the electric transmission system in wholesale market regions pay only for the value of the service that they receive. Although the electric transmission model may not be completely transferable in total to the pipeline industry, the evolution of congestion management on the electric grid is illustrative of the progress that can be made when similar issues to those being faced by the gas pipeline industry are addressed using new paradigms. Going-forward, as policymakers work to determine the most appropriate gas pipeline and LDC tariff structure for gas-fired generation, they are going to have to grapple with these marked differences between the physical capability of the system and the priority rights and levels of services provided by pipelines and LDCs in order to arrive at a new paradigm, one that strives to find a fair and efficient balancing point among different stakeholder interests, i.e., RCI customers, gas-fired generators, investors and ultimate consumers who depend on reliable supplies of both electricity and natural gas. All four target analyses, in particular, Targets 2 and 3 can provide useful information on how best to begin to identify, analyze, and prioritize these issues." Comment: Are generators really "stakeholders" when they don't participate in tariff based services? Changes at a FERC level are required. | Generators have been listed as stakeholders because of their reliance on pipeline-supplied natural gas for operation. The gas-electric system interface study was intended to provide the PPAs with information regarding the adequacy of the natural gas infrastructure as it relates to their anticipated needs, in order to support their participation in discussions with FERC and other entities in the future. |
| 9 | NFG | Page 47: "The impact of the EPA's Clean Power Plan were beyond the scope of this report." Comment: This is significant in that more gas will be needed for power generation as coal plants are retired. This will accelerate activities and not provide renewables enough of an opportunity to develop and fill in the gap. | We agree. While the study did not examine the impacts of the Clean Power Plan, the High Gas Demand Scenario included increased retirement of coal plants and replacement with natural gas, resulting in increased utilization of natural gas infrastructure and more constraints. |

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| 10 | NGSA | NGSA notes that they believe the specific PPA observations provided in the executive summary of the Gas-Electric Interface Study (pp. 44-47) only reflect the PPA perspective. They further state that the views of the natural gas industry stakeholders are not reflected or expressed to provide a balanced perspective. NGSA had similar concerns in the previous draft target reports, and so did not provide specifics (e.g. differences in opinion on priority of service and contract issues). NGSA just wanted to be on record that they believe the summary observations solely reflect power views. | **PPA Response**: We believe the report is clear and does not need modification to reflect the NGSA comment. The introduction to the section referenced on Page 44 states - "Although specific observations resulting from each of the four Targets are identified in the narrative accompanying that specific Target, **the PPAs provide these higher level observations for consideration**:" (emphasis added) |