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July 1, 2019

New York Independent System Operator
10 Krey Blvd.
Rensselaer, NY 12144
Attention: DEckels@nyiso.com

Re: Comments on NYISO Grid in Transition Report

Dear Ms. Eckels:

This letter is being submitted on behalf of Shell Energy North America (US), L.P. (Shell Energy) in response to NYISO's request for comments on its Reliability and Market Considerations for A Grid in Transition Report dated May 2019 ("Grid in Transition Report"). Shell Energy is an indirect subsidiary of Royal Dutch Shell plc. and a long-time participant in the NYISO administered-markets. Shell Energy has been active in the NYISO markets in various ways, such as providing fuel to natural gas plants, price hedges for all types of resources, including renewable resources, both to support development and continued operation for these assets and hedges for energy service companies. Shell Energy is continuously ranked as one of the top three power markets by volume in North America. In addition, Shell Energy's affiliate, Shell New Energies, is the corporate platform from which Royal Dutch Shell has launched its efforts to directly participate in the development and deployment of cleaner power generation and power

supply and services to customers. It has already made significant investments in technologies such as offshore wind, energy storage, solar and electric vehicle projects.¹

It is important to understand Shell's perspective on carbon emissions in the context of the NYISO's efforts to implement a carbon pricing proposal² and the recent passage of the Climate Leadership and Community Protection Act (CCA). Shell has long recognized the climate challenge and the role of energy in enabling a decent quality of life. Our goal is to provide more energy to meet growing world demand while providing cleaner energy to help reduce carbon emissions. We believe that, while technological developments will emerge, effective policy and cultural change is essential to drive low-carbon business and consumer choices and opportunities. We welcome efforts made by governments to cooperatively reach the global climate agreement and support long-term climate goals that balance environmental pressures with development opportunities. We particularly welcomed the United Nations Paris Agreement on climate change and have made a global commitment to reduce carbon emissions with our Net Carbon Footprint ambition. We believe that the transition to low-carbon solutions is best underpinned by meaningful government-led carbon pricing mechanisms.

The Grid in Transition Report is a comprehensive assessment of the reliability and market design challenges posed by policymakers' efforts to promote the development of carbon free resources with some recommendations on how to proceed. On page 5 of the Grid in Transition Report, NYISO states that its approach is based on maintaining all aspects of grid reliability and that competitive markets "...should continue to maximize economic efficiency and

¹ See <https://www.shell.com/energy-and-innovation/new-energies.html> for more information on Shell New Energies. See also, S&P Global Market Intelligence, European Super-majors Shell, BP Leading the Change to Electrification, <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/52447328>, June 24, 2019.

² Comments of Shell Energy North America (US), L.P. on NYISO Carbon Pricing Proposal, November 20, 2018.

minimize the cost of maintaining reliability.” NYISO reaffirms its support for markets in the report and discusses how prices provide a powerful signal to attract and make available grid services. NYISO goes on to identify the problem of revenue shortfalls for resources that will be needed in the future without market design enhancements and offers specific market design proposals to address the gaps.

Shell Energy supports the direction NYISO proposes to head which contemplates more precise ancillary service markets, shortage pricing and reduced reliance on capacity markets. However, there could be some unintended consequences associated with moving forward on such an ambitious and comprehensive market redesign effort, the symptoms of which we believe have already surfaced.

When the NYISO energy markets were established, they were designed to facilitate financial trading which in turn would support efficient hedging practices. Instruments such as swaps and futures that are indexed to NYISO energy market prices became an important tool for price discovery and providing price hedges for all types of resources in New York State.³ While market rules changes have always been something market participants had to account for in their hedging and trading activity, proposals for such changes are starting to have a more dramatic impact on price movements in financial-forward markets. For example, recent uncertainty concerning the timing of NYISO’s carbon pricing proposal were reported to have impacted prices for NYISO futures contracts. Confusion around such proposals can hurt liquidity for longer dated contracts. This means that project economics will be less favorable as fewer counterparties will

³ See e.g., NYISO futures contracts traded on NYMEX, <https://www.cmegroup.com/trading/energy/#electricity>, as of July 1, 2019.

be able to provide price hedges beyond a few years forward, or if they do, they will include significant premiums for uncertainty.

NYISO Staff has become aware of this issue, but in connection with a recommendation to the Board of Directors of the NYISO on how to proceed under the 2019 Master Plan, the Board needs to ensure that the NYISO stakeholder process clearly identifies the market design rules under consideration, the potential market impacts (which are different than consumer impacts) and set clear, realistic limits on the timing of proposals that market participants can rely on for planning purposes. The Grid in Transition Report includes Table 1 on pages 8-9 that identifies a long list of market design enhancements. Prioritizing these proposals and setting timelines will not only be important for managing NYISO resources but also for minimizing market disruptions. A deliberative process that aims to minimize potential market disruptions will provide more certain investment signals for market participants and facilitate the transition of the resource mix under the CCA.

With the passage of the CCA, the State will continue to provide incentives for renewable and distributed resources. Given the nature of these resources (low or no marginal costs), NYISO has correctly identified a market revenue shortfall problem for the type of resources that will be needed to manage the evolving grid of the future. A resource mix that is more distributed and more intermittent will require a different suite of products and transmission and interconnection arrangements to support the reliable operation of the grid. There are also locational issues that must be considered. As reported in the 2019 Power Trends Report, 90% of the energy produced in upstate New York is already derived from carbon-free resources so the addition of new renewable resources will increasingly displace other clean generation in the region absent

expanded transfer capability to down-state markets.⁴ NYISO recognized the need for incremental transmission capacity to address this problem and to make it possible to implement the Clean Energy Standard (CES).⁵ NYISO needs to continue to work with the New York State Public Service Commission to define the public policy transmission investments that will be implemented to support CES (and CCA) so that price signals that identify the right mix of resources and amount of local generating capacity needed to meet reliability standards can be developed.

Shell Energy encourages NYISO to continue to refine its approach to the transition of the grid and the markets needed to support it. It is our expectation that more end use electrification will occur as the State moves to achieve its CCA ambitions. This may engender new issues for the NYISO and its stakeholders to consider as the State advances toward its renewable resource goals and zero emission target for the power sector. Two examples highlight the iterative approach that the NYISO should consider. First, balancing electricity demand in an increasingly electrified economy across four seasons may require additional energy storage solutions that can perform for durations over 12-18 hours. NYISO could assess the role and need for these long-term energy storage solutions in scenarios that include significant increases in electricity demand and renewable resource generation. Second, significant growth in distributed generation could occur given the increased focus on decarbonization of the power sector. As prices reflect the cost of GHG emissions, more consumers may act to manage their own load. NYISO will have to continue to evolve its markets, in collaboration with the New York State Public Service Commission to support

⁴ Reliability and A Green Grid, Power Trends 2019, New York Independent System Operator, <https://www.nyiso.com/documents/20142/2223020/2019-Power-Trends-Report.pdf/0e8d65ee-820c-a718-452c-6c59b2d4818b>, issued May 2, 2019, at 45.

⁵ Power Trends at 61.

investments in distributed generation, including enhancing opportunities for these resources to participate in the NYISO-administered markets on an aggregated basis. Managing these longer-term changes as part of the prioritization process as suggested herein will ensure that NYISO stays in front of the dynamic and evolving marketplace.

Finally, Shell Energy supports the approach of having the NYISO develop for stakeholder review various scenarios of renewable resource penetration and the impacts on the operation of the grid and markets. The NYISO started this effort in the Grid in Transition Report by showing the revenues that would be earned by various resource types under three possible scenarios, which include a projection of revenue streams with enhanced product market design and carbon pricing and with enhanced product market design and no carbon pricing. Refining these analyses to include locational differences and the timing of various levels of penetration of renewable resources, distributed generation and energy storage, including seasonal storage will be helpful.

The NYISO's approach of relying more on energy markets to provide revenue streams is imperative to the preservation of competitive markets. The energy markets send the most precise signals and have mechanisms to allow for hedging. They are also not as susceptible to regulatory intervention as we have seen in the past with buyer-side mitigation measures and the demand curve reset process that are hallmarks of the capacity markets. Shell Energy expects that renewable resources will receive financial incentives through Renewable Energy Credits (RECs) to meet the State's ambitious goals for renewable resource deployment under the CCA. Shell Energy recognizes that time limited incentives can help catalyze the market for renewable resources, but they are not sustainable from a market efficiency or customer impact

perspective. Designed properly, a market that explicitly reflects the price of carbon will provide a more durable price signal to investors and reduce costs for consumers. It is important that NYISO work the New York State Public Service Commission to harmonize REC payments with energy markets that include the price of carbon. This will ensure that consumers do not pay twice for the same attributes and markets can provide the lion's share of revenues for new resources.

In addition, NYISO's carbon pricing proposal can serve as a valuable tool to help the State meet its carbon reduction mandates. NYISO's recommendations position it to support the State's goals on carbon reduction and renewable resource development while preserving the integrity of the NYISO energy markets that have provided consumers with tremendous value since their inception.

Shell Energy looks forward to the opportunity to collaborate with the NYISO and other stakeholders on these important issues.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Matthew J. Picardi". The signature is fluid and cursive, with a distinct loop at the end.

Matthew J. Picardi
Regulatory Affairs – Vice President