ESA would like to respond to the 10/16 MIWG presentation on "Market Assessment with 50% Renewable Generation" request for input on specific market design ideas.

First, ESA would like to emphasize its agreement that NYISO establish a ramping product. As New York increases the volume of variable generation on its system to meet the CES, it is likely to find that a mix of factors will contribute to increasingly large, very short-run divergences between supply and demand. ESA recommends that NYISO investigate its ramping needs under a higher-renewables future, determine shortcomings (if any) of current market designs, and ultimately establish a ramp product to meet those needs effectively.

Additionally, ESA agrees with use of more dynamic Ancillary Service requirements and shortage pricing. Moving to shorter (i.e., sub-hourly) scheduling intervals would match increasingly short-run Ancillary Services needs with faster, flexible resources to meet those needs. Additionally, Ancillary Services dependent on fast-response (e.g., frequency regulation, frequency response) could either provide dispatch priority for fast ramping resources or use pay-for-performance principles to substitute for slower ramping resources and thus lower overall reserve requirements. Shortage pricing is similarly critical for energy markets to accurately reflect needed flexibility, and in addition to Order 825 compliance, NYISO should consider augmentations to shortage pricing that sufficiently eliminate the need for out-of-market uplift payments. Additionally, ESA asks that NYISO consider price formation around other reliability services, including frequency response and reactive power.

In addition, ESA recommends consideration of a load-shift product. Increasing solar generation may lead to a "duck curve" similar to that experienced in CAISO. While low or negative prices during the day followed by higher prices during evenings may provide an incentive for arbitrage, low or negative prices only signal that consumption is desirable, which may provide signals only for wasteful consumption. To make sure excess clean energy can be absorbed, stored, and used productively to meet the GHG emission goals of New York, a load-shift product would be useful.

Alternatively, NYISO might consider concepts from the May 2017 Brattle Group proposal from the NEPOOL Integrating Markets and Public Policy Forum discussion, which proposed to price an environmental attribute of generation in a manner that varies by both location and hour. Send signals for displacement of marginal emissions at the right place and time is critical for both policy effectiveness and incenting the right resources to show up to displace emissions.

Also, as a reference, ESA recommends the Oct 2017 Energy Innovation report on A Roadmap for Finding Flexibility in Wholesale Markets.

ESA appreciates NYISO soliciting comments from stakeholders on this matter and looks forward to working with NYISO to develop market designs to support New York's energy goals.