Stakeholder Survey Results and NYISO Scoring of 2020 Proposed Market Projects

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Agenda

- Project Prioritization Phases, Milestones, and Timeline
- Stakeholder Survey Appeal
- Stakeholder Survey Comments
- NYISO Scoring
- 2020 Market Products Candidates
- Historic Budgets
- Next Steps



Project Prioritization Phases, Milestones, and Timeline



Project Prioritization Process

Phase	Description
Identification	This phase involves developing the list of project candidates taking into consideration regulatory obligations, strategic initiatives, State of the Market recommendations, necessary infrastructure enhancements, product plans, stakeholder feedback, etc.
Prioritization	The phase involves a stakeholder survey and the NYISO prioritization of projects. The stakeholder survey will facilitate an assessment of the relative priority of the topic within the portfolio and is used to determine stakeholder appeal. The NYISO prioritization incorporates the stakeholder appeal into objective criteria that reflects strategic alignment, expected outcomes, risks, and ability to execute in development of a priority score for each Market project.
Evaluation	This phase involves performing a feasibility assessment based on detailed cost and labor estimates, dependencies, priority scores, and stakeholder feedback.
Recommendation	This phase involves proposing a feasible set of project deliverables and related budget requirements. The proposal is refined as needed based on stakeholder feedback.



Project Type

Project Type	Description
Mandatory	Strategic Initiatives and FERC Orders. These projects will be included in the budget
Continuing	Approved in a prior year and have progressed to either software design or development complete. Additional projects may be classified as Continuing based on stakeholder feedback. These projects will be included in the budget
Future	Consensus from stakeholder discussions of this projects priority relative to other projects has resulted in these projects NOT being prioritized and initiated in the coming budget year. Resources, time constraints, stakeholder feedback, and other project dependencies have been taken in to consideration
Prioritize	Projects to be prioritized and included in the budget based on a feasibility assessment taking into consideration resources, time constraints, stakeholder feedback, priority score, and other project dependencies. Market projects are included in the stakeholder survey



Project Category

Project Category	Description
Enterprise	Includes internal-facing technology and back office support projects that have no market rule changes. This list includes projects that may be noticeable to Market Participants. These projects are NOT included in the stakeholder survey
Market	Projects associated with market rule(s) including market design and study projects as well as any project implementing market rule changes. These projects are included in the stakeholder survey unless they are Mandatory, Continuing, or Future



Project Scoring

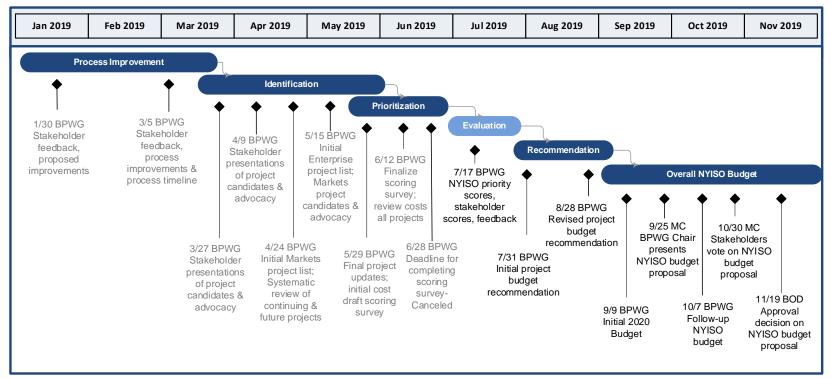
Project Scoring	Description
NYISO Only	Enterprise projects that are not Mandatory, Continuing, or Future types are scored by the NYISO Only during the Prioritization phase. These projects are included in the budget based on a feasibility assessment taking into consideration resources, time constraints, priority score and other project dependencies.
Stakeholder Scored	Market projects that are not Mandatory, Continuing, or Future are included in the stakeholder survey and scored by the NYISO during the Prioritization phase. These projects are included in the budget based on a feasibility assessment taking into consideration resources, time constraints, stakeholder feedback, priority score, and other project dependencies.



Milestone Definitions

Milestone	Definition
Market Design Concept Proposed	NYISO has initiated, or furthered discussions with stakeholders that explore potential concepts to address opportunities for market efficiency or administration improvements.
Market Design Complete	NYISO has developed with stakeholders, a market design concept such that the proposal can be presented for a vote at the BIC or MC to define further action on the proposal.
Architectural Design	The architectural design document is complete and software development is ready to begin.
Functional Requirements	NYISO has completed documentation of the functional requirements and the Business Owner has approved.
Software Design	The software design document is complete and software development is ready to begin.
Development Complete	Development has been completed, packaged and approved by the Supervisor.
Deployment	Required software changes to support commitment have been integrated into the production environment.
Study Complete	Scope of work to be performed has been completed; results and recommendations have been presented to the appropriate Business Owners and stakeholders.
Study Defined	The scope of work for the study has been presented to stakeholders, including a discussion on the necessary input(s), assumption(s) and objective(s) of the study.

Project Prioritization Timeline





Stakeholder Survey Appeal Score



Survey Participation

		2019 Survey 2018 Survey					
Sector	Sub Sector	Num. Eligible Orgs.	Num. Reponses	Percent Participation	Num. Eligible Orgs.	Num. Reponses	Percent Participation
End Use Consumer	Gov. Sm. Cons. & Retail Aggr.	2	2	100%	2	2	100%
"	Gov. State-wide Cons. Advocate	1	1	100%	1	1	100%
II	Large Cons. Gov. Agency	1	0	0%	1	0	0%
II	Large Consumer	5	4	80%	5	5	100%
II	Small Consumer	7	6	86%	7	7	100%
Generation Owner		15	5	33%	17	5	29%
Other Supplier		35	13	37%	37	20	54%
Public/Environment	Environmental	6	2	33%	6	2	33%
II .	Munis & Co-Ops	11	11	100%	11	11	100%
11	State Power Authorities	2	2	100%	2	2	100%
Transmission Owner		4	4	100%	4	4	100%
Non Voting Entity		60	15	25%	63	10	16%
Total		149	65	44%	156	69	44%



Survey Appeal Definition* Same as used in 2018

Criteria	Criteria	HIGH MEDIUM		LOW	NONE
Cilicila	Weight	10	7	3	0
Appeal	15	Broad Customer Support: Supported by 5 sectors with 25% or more of survey respondents per sector applying points and average across the survey respondents per sector of 5 points or more; or either raw or weighted scores equivalent to 20% of survey respondents applying 25 points or more	respondents per sector of	Minimal Customer Support: Supported by 2 sectors with 25% or more of survey respondents per sector applying points and average across the survey respondents per sector of 5 points or more; or either raw or weighted scores equivalent to 5% of survey respondents applying 25 points or more	Little to No Customer Support



Weighted Score Sector Percentages

Sector	Sub-Sector	Eligible Percentage	Subsector Percentage	Num. Eligible Orgs.	Num. Responses	Score Weights
End Use		20.0%		16	13	
	Gov. Sm. Cons. & Retail Aggr.		1.8%	2	2	2.0%
	Gov. State-wide Cons. Advocate		2.7%	1	1	3.0%
	Governmental Agency		2.0%	1	0	0.0%
	Large Consumer		9.0%	5	4	10.0%
	Small Consumer		4.5%	7	6	5.0%
Generation Owner		21.5%		15	5	21.5%
Other Supplier		21.5%		35	13	21.5%
Public Power /						
Environmental		17.0%		23	15	
	Environmental		2.0%	6	2	2.0%
	Munis & Co-Ops		7.0%	11	11	7.0%
	State Power Authorities		8.0%	2	2	8.0%
Transmission Owner			20.0%	4	4	20.0%
Non-Voting		0.0%		60	15	0.0%



Survey Appeal Score

* Stakeholder survey details posted with today's materials

Projects are ordered by sum of the 3 scoring components

Proposed Projects	Ra	aw Score (Avg.)	eighted Score	ector ount	Sum of Scores	Appeal Score
Ancillary Services Shortage Pricing (SOM)		9.8	10.0	5.0	24.8	10
Hybrid Storage Model		8.8	7.5	3.0	19.3	10
Enhancing Fuel and Energy Security		6.4	6.5	4.0	17.0	10
Comprehensive Mitigation Review		6.5	7.2	3.0	16.7	10
Locational Marginal Pricing of Capacity (SOM)		4.8	6.2	4.0	15.0	10
Tailored Availability Metric		5.3	5.9	3.0	14.2	10
Grid in Transition Discussion - Submitted by LIPA		6.4	5.5	2.0	13.9	10
Reserves for Resource Flexibility		5.0	5.6	3.0	13.5	10
Reserving Capacity for Balance-of-Period (BoP) Auctions		5.0	5.0	2.0	12.0	10
Constraint Specific Transmission Shortage Pricing (SOM)		4.9	4.9	2.0	11.8	7
Relocating the IESO Proxy Bus		6.7	4.0	1.0	11.7	10
BSM Evaluation for Small Resources Outside of the Class Year (SOM)		4.1	4.5	3.0	11.6	7

	= 10, High Stakeholder
	Appeal
	= 7, Medium Stakeholder
)	Appeal
	= 3, Low Stakeholder
	Appeal
	= 0, Little to None
	Stakeholder Appeal



Survey Appeal Score

* Stakeholder survey details posted with today's materials

Projects are ordered by sum of the 3 scoring components

Proposed Projects	Proposed Projects Raw Score (Avg.)		Weighted Score		Sector Count		Sum of Scores	Appeal Score
5 Minute Transaction Scheduling		4.8		4.4		1.0	10.2	7
CRIS Tracking Class Year Redesign		4.7		4.3		1.0	10.0	7
Reserve Enhancements for Constrained Areas (SOM)		2.9		3.8		2.0	8.7	7
Linked Virtual Transactions		3.5		1.7		1.0	6.2	7
Capacity Zone Elimination - Submitted by Central Hudson		2.0		2.8		1.0	5.8	7
NYC Part A Test Exemption (SOM)		2.5		2.1		1.0	5.6	3
Enhanced BSM Mitigation Study Period	0	2.0		2.4		1.0	5.5	3
Enhanced BSM Forecasts Assumptions (SOM)		1.5		2.6		0.0	4.1	7
WEELR Participation Model		1.1		1.0		0.0	2.1	0
Communication of Voltage Schedule to Generators		0.7		1.2		0.0	1.9	0
Mitigation Thresholds Review		0.6		0.7		0.0	1.3	0

	= 10, High Stakeholder
•	Appeal
	= 7, Medium Stakeholder
	Appeal
	= 3, Low Stakeholder
	Appeal
	= 0, Little to None
	Stakeholder Appeal





Project	Organization	Comment
BSM Evaluation for Small Resources Outside of the Class Year (SOM)	Enel X North America, Inc.	Wouldn't this be done anyway if FERC approves the NYISO's 841 request? We're strongly in favor of it.
Capacity Zone Elimination - Submitted by Central Hudson	Helix Ravenswood, LLC	This issue was reviewed previously as part of an elimination/creation study and was not progressed. To the extent it is reviewed again, it would need to be part of a more comprehensive capacity review and at a minimum include zone creation. Project 8 proposed by Potomac Economics is a more appropriate tool to determine locational capacity value.
Capacity Zone Elimination - Submitted by Central Hudson	Consolidated Edison Co. of New York, Inc.	We acknowledge that the NYISO needs a process to eliminate capacity zones. However, given the other priorities on the list and NYISO's statement that it cannot work on the project next year due to the demand curve reset, we have not allocated it any points this year.
Class Year Redesign	EDP Renewables North America LLC	anything to improve the ability of the CY to move forward promptly is valuable. We would like a continuing and comprehensive look at it.
Class Year Redesign	Helix Ravenswood, LLC	Although the Class Year process is in need of improvements to expedite the interconnection process, and certain aspects of CRIS rights need to be revised (i.e., those associated with new projects that do not achieve commercial operation or commercial operation is significantly delayed), market participants should not be forced to relinquish historic CRIS rights involuntarily. A more efficient means of transferring and trading historic CRIS rights should be developed as part of any redesign.
Class Year Redesign	Enel X North America, Inc.	I would vote for this if it weren't already going to be required

Project	Organization	Comment
Comprehensive Mitigation Review	NYS Department of State Utility Intervention Unit	This project seems premature. The BSM improvements (5) and (6) should be completed first and the impacts of those enhancements in combination with other pricing enhancements (12) and (13) to put a review in proper context, Additionally, the FERC's policy position on BSM and MOPR is evolving. It may be helpful to have FERC further clarify its position with a PJM order and any subsequent policy statements before pursuing an review of the NYISO BSM structure.
Comprehensive Mitigation Review	Helix Ravenswood, LLC	The proliferation of work arounds to buy side mitigation and out-of-market compensation have significantly increased investment risk in the NYISO market and leads to even more out-of-market activities. To the extent mitigation is reviewed, it would need to be a truly comprehensive analysis that included review of supply side issues that prevent resources from exiting the market in anticipation of other opportunities. Rather than finding ways to allow more out-of-market projects to enter the capacity market, improved capacity market signals via Project 8 proposed by Potomac Economics is a more appropriate tool to determine locational capacity value and signal necessary investments.
Comprehensive Mitigation Review	Enerwise Global Technologies, Inc. dba CPower	As NYISO states in the problem/opportunity statement, significant market changes have occurred since the BSM measures were initially implemented. In light of the anticipated resource mix changes, rather than focusing on projects focused on individual technology types or resource sizes, a comprehensive review of mitigation measures, and the risk and implications of these new resources' ability to exert market power, should be conducted to determine what measures are appropriate, and the timeline and frequency at which BSM tests should be conducted.



Project	Organization	Comment
Comprehensive Mitigation Review	Consolidated Edison Co. of New York, Inc.	This study is timely and needed, and we would support an acceleration of the milestone to "Study Complete" in 2020. It is imperative that the NYISO look at the how it will accommodate state policy into the market effectively in the near-term.
Enhanced BSM Forecasts Assumptions (SOM)	Helix Ravenswood, LLC	As with all incremental changes to the capacity market, before implementing them there needs to be a higher level comprehensive evaluation that ensures the reliability product is appropriately defined and then compensated.
Enhanced BSM Mitigation Study Period	Helix Ravenswood, LLC	As with all incremental changes to the capacity market, before implementing them there needs to be a higher level comprehensive evaluation that ensures the reliability product is appropriately defined and then compensated.
Enhancing Fuel and Energy Security	Helix Ravenswood, LLC	Currently most fuel security measures are implemented via reliability rules outside the market. Although market signals for fuel security would be preferred, it isn't clear how a product would be designed. However, with new legislation threatening the legality and viability of oil, natural gas and other carbon emitting resources something needs to be designed to prevent resources from retiring prematurely. Energy security is an even more difficult issue to address because of the reluctance to allow energy prices to spike to levels necessary to ensure firm energy service. Therefore, it is critical to create and pay for reliability attributes that provide the full reliability product that operators are confident to rely on as opposed to carving such service into pieces and hoping that the individual revenue is sufficient for each component of service and provided from unrelated resources.



Project	Organization	Comment
Enhancing Fuel and Energy Security	Richard P. Felak	It is imperative that more aspects of what power/fuel users themselves do to impact this topic, and also what power/fuel users can do to mitigate such risks, are identified and taken into account before putting into place any more top-down market design band-aids. For example, using today's technologies and information, power/fuel users should be allowed to decide what level of reliability is best for them instead of being forced to pay for an LOLE which does not reflect today's cost-benefit realities.
Enhancing Fuel and Energy Security	Bath Electric, Gas & Water Systems	This is an important analysis as New York State transitions to a high percentage of renewable resources and high dependence on natural gas.
Enhancing Fuel and Energy Security	Lake Placid Village	This is an important analysis as NY transitions to high renewable intermittent generation and higher dependence on natural gas.
Enhancing Fuel and Energy Security	Municipal Commission of Boonville	This is an important analysis as NY transitions to high renewable intermittent generation and higher dependence on natural gas.
Enhancing Fuel and Energy Security	Plattsburgh Municipal Lighting Dept.	This is an important analysis as NY transitions to high renewable intermittent generation and higher dependence on natural gas.
Enhancing Fuel and Energy Security	Village of Arcade	This is an important analysis as NY transitions to high renewable intermittent generation and higher dependence on natural gas.
Enhancing Fuel and Energy Security	Village of Fairport	This is an important analysis as New York transitions to high renewable intermittent generation and higher dependence on natural gas.



Project	Organization	Comment
Enhancing Fuel and Energy Security	Village of Solvay	This is an important analysis as NY transitions to high renewable intermittent generation and higher dependence on natural gas.
Enhancing Fuel and Energy Security	Village of Westfield	This is an important analysis as NY transitions to high renewable intermittent generation and higher dependence on natural gas.
Enhancing Fuel and Energy Security	Consolidated Edison Co. of New York, Inc.	We support continued work on this topic in support of issues to be identified in the final report. However, if no issues are identified we would recommend resources for this project be allocated to other projects.
Locational Marginal Pricing of Capacity (SOM)	Helix Ravenswood, LLC	Potomac Economics proposal addresses some of the issues raised during the design and implementation of the Alternative Locational Capacity Requirement. This project would more accurately value capacity throughout NY and send the appropriate market signals for investment as long as the resources allowed to sell it are dispatchable and able to provide the capacity service. This is critical during the transition to a grid with more intermittent resources.
Locational Marginal Pricing of Capacity (SOM)	Richard P. Felak	This is a laudable concept and should be done in any case but the "marginal reliability value" should primarily be based on a cost-benefit analysis done to reflect the value that power consumers themselves place on reliability because otherwise the incorrect objective function will be used to find a falsely optimal solution which cannot, and thus will not, minimize costs for any LOLE.
Locational Marginal Pricing of Capacity (SOM)	Enerwise Global Technologies, Inc. dba CPower	Creating more flexibility in the capacity market to reflect capacity needs more rapidly and help provide price signals to direct resource development.

Project	Organization	Comment
NYC Part A Test Exemption (SOM)	Helix Ravenswood, LLC	Exemptions are not required. Better pricing signals associated with Project 14 and actual economic projects could render having mitigation exemptions moot.
Tailored Availability Metric	NYS Department of State Utility Intervention Unit	The project, as described, specifies an approach to "tailoring" the availability metric. While it is important that performance of resources be tracked and that compensation reflect the contribution of resourced to reliability, it has not been established that the proposed metric is the most appropriate way of meeting this goal.
Tailored Availability Metric		Availability is extremely important when resources are not dispatchable. Therefore, framing the issue as needing to incent performance during peak operating hours partly misses the issue. Energy price should incent performance but price spikes are not high enough. Operators need dispatchable resources to give them the confidence to rely on the markets to maintain reliability. Availability form a dispatchability perspective is how the service should be measured. System needs arise at all hours of the day and operators need dispatchable resources to provide the reliability needs necessary for a 24/7/365 system.
Tailored Availability Metric	Enerwise Global Technologies, Inc. dba CPower	Availability of resources is key to maintain system reliability. CPower encourages NYISO to pursue investigation of this service for resources that are selling capacity into the NYISO market.
Tailored Availability Metric	Mercuria Energy America, Inc	eford should focus on peak availability



Project	Organization	Comment
Ancillary Services Shortage Pricing (SOM)	Helix Ravenswood, LLC	It is very important to properly price this product and increase the visibility and granularity of the price signal. However, it is not a substitute for an adequate capacity market. Revenues from this and other energy and ancillary service markets, although projected to increase, will not in and of them selves provide the revenues necessary to maintain dispatchable resources.
Ancillary Services Shortage Pricing (SOM)	Enerwise Global Technologies, Inc. dba CPower	Similar to our comments on Project 37, changing supply-side dynamics will result in the need to ensure there are market mechanisms in place to ensure reserve requirements are met.
Constraint Specific Transmission Shortage Pricing (SOM)	Helix Ravenswood, LLC	This project will create a greater reliance on market pricing as opposed to out-of-market actions. Therefore, it is another important component as the Grid transitions.
Grid in Transition Discussion - Submitted by LIPA	NYS Energy Research & Dev. Authority (NYSERDA)	NYSERDA would have allocated more points if NYISO would undertake specific studies of how to best incorporate state policy.
Grid in Transition Discussion - Submitted by LIPA	EDP Renewables North America LLC	Carbon and its impact on the NYISO markets and operations appears to be Job 1
Grid in Transition Discussion - Submitted by LIPA	Helix Ravenswood, LLC	This "project" essentially raises all the issues noted in Power Trends 2019 and the NYISO's report on a Grid in Transition. While issues associated with the Grid in Transition are important, this "project" appears repetitive of all the things the NYISO is already working on.



Project	Organization	Comment
Grid in Transition Discussion - Submitted by LIPA	Richard P. Felak	With plenty of inputs from power users themselves this could end up being a useful activity. In any case, #8 "Future of the Competitive Market" is by far the most important part of this proposed project – and it should be asked and answered for both the wholesale and retail markets.
Grid in Transition Discussion - Submitted by LIPA	Enerwise Global Technologies, Inc. dba CPower	While this project seems to be a bit repetitive to work the NYISO has already underway, it will be important to continue to investigate the appropriate market mechanisms to incentivize reliability and flexibility.
Grid in Transition Discussion - Submitted by LIPA	Long Island Power Authority	Many see this as something NYISO will need to do in any case.
Hybrid Storage Model	NYS Energy Research & Dev. Authority (NYSERDA)	There are hundreds of MWs of storage in the NYISO Queue that are proposed at peaker sites for hybridization or on-site with Large-Scale Renewables that are waiting/dependent on the development of these rules.
Hybrid Storage Model	EDP Renewables North America LLC	Storage is going to be critical to achieving NY goals. Adding storage to existing or new renewable sites will be an important improvement
Hybrid Storage Model	Helix Ravenswood, LLC	Allowing resources to be considered together could more accurately enable the NYISO to value the dispatchability that operators need for reliability. It could also better represent the actual capacity value of each of the resources as they complement each other and become more dispatchable as each resource fills in the gaps left by the other resource.



Project	Organization	Comment
Hybrid Storage Model	NextEra Energy Marketing, LLC	While the NYISO has indicated that its target for the Hybrid Storage Model would be "market design complete" by the end of 2020 – assuming it's supported as a 2020 priority – we've also heard as part of prior discussions that implementation of hybrid storage rules may not be until 2023. Given the state of the industry and the technology availability to deploy hybrid resources (renewables + storage) now, market rules in 2023 represents an inordinate delay and a barrier to entry.
Linked Virtual Transactions	Jamestown Board of Public Utilities	It would be great if this project could also correct the ability to put bids into the virtual market via mobile browsers (currently selecting the date field causes the page to refresh, a work around has been to type the date in elsewhere and copy and paste it into the date field. Other than that glitch the site works OK on mobile already so it seems easy enough to correct while the code is open for adjustment). Also, something to consider during this project would be enabling bid blocks/variable strip offers in the virtual transactions (instead of only being able to bid on one hour at a time be able to offer a fixed price/MW for a block of time). It would be more similar to hour generators bid.
Mitigation Thresholds Review	Helix Ravenswood, LLC	It is important to ensure resources are not over or under mitigated, however, as with the other enhancements being considered, this will not be the change that ensures reliability via the markets during the transition. Again, capacity service definitions and compensation are critical to the transition.
Relocating the IESO Proxy Bus	Bath Electric, Gas & Water Systems	This project offers immediate market benefits and can be implemented at low cost.



Stakeholder Scoring Survey Comments

Project	Organization	Comment
Relocating the IESO Proxy Bus	Lake Placid Village	This project provides immediate benefits at a low cost. It will provide better price transparency for Zone A.
Relocating the IESO Proxy Bus	Municipal Commission of Boonville	This project provides immediate benefits at a low cost. It will provide better price transparency for Zone A.
Relocating the IESO Proxy Bus	Plattsburgh Municipal Lighting Dept.	This project provides immediate benefits at a low cost. It will provide better price transparency for Zone A.
Relocating the IESO Proxy Bus	Village of Arcade	This project provides immediate benefits at a low cost. It will provide better price transparency for Zone A.
Relocating the IESO Proxy Bus	Village of Fairport	This project provides immediate benefits at a low cost. It will provide better price transparency for Zone A.
Relocating the IESO Proxy Bus	Village of Solvay	This project provides immediate benefits at a low cost. It will provide better price transparency for Zone A.
Relocating the IESO Proxy Bus	Village of Westfield	This project provides immediate benefits at a low cost. It will provide better price transparency for Zone A.
Reserve Enhancements for Constrained Areas (SOM)	Helix Ravenswood, LLC	Similar to Project 17, while it is important to ensure constraints are appropriately modeled in the market, this will not be the change that ensures reliability via the markets during the transition. Again, capacity service definitions and compensation are critical to the transition.



Project	Organization	Comment	
Reserves for Resource Flexibility	NYS Department of State Utility Intervention Unit	Before this project is pursued, the NYISO should establish what existing or proposed operating standards it is unable (or may become unable) to meet; the conditions under which those deficiencies occur; and the magnitude of such deficiencies. Then the types of services that may most beneficially allow the operators to meet standards can be introduced.	
Reserves for Resource Flexibility	Helix Ravenswood, LLC	Similar to Project 17 and 19, while it is important to ensure appropriate compensation for reserve flexibility, this will not be the change that ensures reliability via the markets during the transition. Again, capacity service definitions and compensation are critical to the transition.	
Reserves for Resource Flexibility	Enerwise Global Technologies, Inc. dba CPower	Investigation of additional reserve products that reward resources that are capable of providing flexibility services that can quickly respond to dynamic supply conditions on the grid should be seriously considered.	
WEELR Participation Model	Helix Ravenswood, LLC	The importance of and critical role for storage type resources counsels for continued development of market designs to allow participation of these resources in a manner that addresses the economic and reliability needs of the system. The additionl work conducted under this project will inform the NYISO and market participants of the capabilities and limitations of the current software system and ensure development of necessary changes.	



Project	Organization	Comment
Reserving Capacity for Balance-of-Period (BoP) Auctions2	Helix Ravenswood, LLC	Suppliers rely on transmission capacity released in multi-round Centralized TCC auctions to hedge exposure to congestion risk. 12-months and 6-months TCC products align well with tenors of energy revenue and fuel cost hedges available in bilateral and exchange traded markets. The reduction in transmission capacity sold in these auctions will diminish the ability to procure TCC hedges and protect against congestion risks. Monthly TCC auctions were designed to allow market participants to "reconfigure" their hedges in the event that they expect their supply to be unavailable due to an outage or other interruption. The prices in monthly TCC auctions are most likely to reflect the most up-to-date information on weather, transmission and generation outages, and other underlying congestion drivers. Just as if there were daily TCC products, their pricing would likely be very close, on average, to the Day-Ahead market outcome. At this point, their value as hedging instruments would be greatly diminished. Allowing suppliers to hedge their exposure to congestion risks is one of the fundamental goals of TCC market design. Centralized auctions are best suited for achieving this because suppliers can procure hedges against unexpected congestion events ahead of time, covering longer periods. Removing transmission capacity from the centralized auctions would diminish suppliers' ability to do so. In addition, under the current TCC survey-based procedure (only 16 respondents participated in the latest TCC auction survey), there is no way to ensure that a few responses would not dramatically change allocation of transmission capacity across the auctions. No analysis was shared with market participants to demonstrate what would happen with auction clearing prices under different levels of transmission capacity offered between different auction tenors.



Stakeholder Scoring Survey Comments

Project	Organization	Comment
Please enter any additional comments:	Cricket Valley Energy Center, LLC	CVEC is increasingly concerned about the increasing amount of resources in NYISO receiving out of market subsidies from NY state resulting in suppression of NYISO capacity market price signals. Our highest priority is to see strong buyer side mitigation for all of NYISO rules that ensure that capacity price signals reflect appropriate prices for entry and retention of truly competitive unsubsidized resources.
Please enter any additional comments:		As a general matter, reliability and how it is compensated via the capacity and other markets is the significant challenge facing the NYISO markets during the transmission grid transition to more intermittent resources. While energy market design changes are important, revenue adequacy for reliability service via the capacity market is becoming more and more critical to maintaining dispatchable resources. Revenues from energy and ancillary service products are not expected to be sufficient to support reliability resources. Therefore, ensuring the capacity reliability product is defined appropriately and the compensation associated with this reliability product is adequate should be the highest priority for the NYISO. Otherwise, out-of-market reliability agreements will be necessary to maintain reliability. Further proliferation of non-dispatchable "capacity-lite" resources that suppress capacity markets while not providing the same reliability products create a real threat to reliability and potential need for out-of-market reliability agreements.
Please enter any additional comments:	Alliance for Clean Energy New York	It is critical for NYISO to have fair and efficient rules for renewables + storage.



Project	Organization	Comment
Please enter any additional comments:	Con Edison Solutions, Inc.	Enhanced Fast Start Pricing would also provide better market signals and should be supported.
Please enter any additional comments:	Richard P. Felak	One overarching fact needs to be properly integrated into the conceptualization and implementation of all proposed and future NYISO "projects". Namely, that it is inefficient (and illusory) to continue trying to have separate wholesale and retail markets. Unfortunately, some individuals and organizations strive to maintain that separation for their own self-serving interests. Nevertheless, if the NYISO's proposed changes in its market structures were all fashioned with the single essential objective that they are intended to minimize the total cost of delivered power to all end users at a level of reliability that those consumers desire, then there would be no need to debate whether such market structures were wholesale or retail in nature because it would be irrelevant and counterproductive to identify or differentiate them as such.
Please enter any additional comments:	PSEG Energy Resource & Trade, LLC	Disappointed that the LI Par Optimization project didn't make it into the final survey. Would definitely have allocated some points to this. Similarly, the RTC-RTD Convergence Project didn't make it onto the final Survey - disappointing, as this remains a problem for pricing on the VFT line and would definitely have allocated some points to this project as well.



Project	Organization	Comment
Please provide any recommendations you may have for future enhancements to the Project Prioritization Process:	Fordham University	Fix the stupid survey form so that you do not have to clear your cookies after entering each response.
Please provide any recommendations you may have for future enhancements to the Project Prioritization Process:	Richard P. Felak	More involvement by power users, and a higher weighting for their scores, is needed to yield an overall market structure that is more stable and efficient than has been occurring with the historical Project Prioritization process. Consumers are the main reason that the NYISO exists in the first place – and thus their interests should be paramount in any discussion or decision. By properly reflecting that imperative, all the other market participants will then have better outcomes because their activities will be maximally aligned with consumers – who (after all is said and done) are also their most important "customers".
Please provide any recommendations you may have for future enhancements to the Project Prioritization Process:	Enerwise Global Technologies, Inc. dba CPower	I recommend that the project numbers from the project list descriptions and the actual survey match up.
Please provide any ecommendations you may have Jamestown Board of property future enhancements to the Public Utilities Project Prioritization Process:		More time to evaluate before deadline would be helpful

NYISO Scoring



Project Prioritization Criteria* Same as used in 2018

			PRIO	RITIZATION CRITERIA			
Octoroni	Ouitouio	Criteria	HIGH	MEDIUM	LOW	NONE	
Category	Criteria	Weight	10	7	3	0	
	Leader in Reliability		Significantly improves NYISO ability to maintain NYCA Reliability	Moderately improves NYISO ability to maintain NYCA Reliability	Minimally improves NYISO ability to maintain NYCA Reliability	None	
Strategy	Leader in Market Design	10	Significantly improves NYISO Market Design	Moderately improves NYISO Market Design	Minimally improves NYISO Market Design	None	
(If we do this project)	Leader in Technology Innovation	6	Significantly advances the IT strategy or technology improvement	Moderately advances the IT strategy or technology improvement	Minimally advances the IT strategy or technology improvement	None	
	Sustain and Enhance Robust Planning Processes		Supports tariff, FERC, NPCC, or NYSERC compliance requirements for Planning Process	Supports reliability planning and/or Business Plan objectives	Required for SRP planning study efficiency or continuous improvement initiatives	None	
	NYISO Annual Cost Reduction	10	>\$500k savings-Direct and soft (labor)	>\$100k, <\$500k savings-Direct and soft (labor)	>\$10k,<\$100k savings - Direct and soft (labor)	<\$10k savings - Direct and soft (labor)	
Outcome (If we do this project)	ome o this or more of su and average points or mo to 20% of su Market Efficiency 10 Significant in		Broad Customer Support : Supported by 5 sectors with 25% or more of survey respondents per sector applying points and average across the survey respondents per sector of 5 points or more; or either raw or weighted scores equivalent to 20% of survey respondents applying 25 points or more		Minimal Customer Support: Supported by 2 sectors with 25% or more of survey respondents per sector applying points and average across the survey respondents per sector of 5 points or more; or either raw or weighted scores equivalent to 5% of survey respondents applying 25 points or more	Little to No Customer Support	
	Market Efficiency	10	Significant improvement	Moderate improvement	Minimal improvement	No impact	
	Market Efficiency 10 Significant impropersion of the Post Production Sustainability 5 Existing support Compliance 10 Significant risk Business Process (inclusive of technology impact on business 5 Enterprise Widelers).		Existing support structure and skills	Support structure exists but needs minimal modifications	Support structure exists but needs major modifications	No skills or support structure in place	
	Compliance	10	Significant risk of compliance violation	Moderate risk of compliance violation	Minimal risk of compliance violation	None	
Risk (If we do NOT do this	Business Process (inclusive of technology impact on business process)	5	Enterprise Wide and/or Bid to Bill Impact. The project impacts processes in most departments	Multiple Department Impact.	Department Wide Impact The project impacts many processes within a department	Only one or two processes impacted	
project)	process)		Mission-critical systems becoming non operational or above \$1 million market impact		Non mission-critical systems affected or \$10,000 - \$100,000 market impact	No or less than 10,000 impact	
	Cost	4	Total project cost (current & future years) estimated <\$100k	Total project cost (current & future years) estimated >\$100k, <\$500k	Total project cost (current & future years) estimated >\$500, <\$1M	future years) estimated >\$1M	
Execution (If we do this	Multi-Year Dependency		Continuation of a multi-year project - postponement significantly disrupts value of previous investments	Continuation of a multi-year project - postponement moderately disrupts value of previous investments	Continuation of a multi-year project - postponement minimally disrupts value of previous investments	None	
project)	Complexity of Business and Technology		One area/technology	Cross-functional < 3 Areas/Technology	Highly Cross-functional/ Re-engineering	Complex, solution and impact unknown	
	Compliance	8	Non-appealable, ordered by FERC / desired by NYISO and MP	Ordered by FERC, undesired by NYISO or MP	Potential order identified by FERC	No order identified by FERC	



Survey Appeal & NYISO Score

Projects are ordered by sum of the 3 scoring components

Proposed Projects	Raw Score (Avg.)		Weighted Score	Sector Count		Sum of Scores	Appeal Score	NYISO Score w/o Appeal	NYISO Score inc. Appeal
Ancillary Services Shortage Pricing (SOM)	9.	8	10.0		5.0	24.8	10	330	480
Hybrid Storage Model	8.	8	7.5		3.0	19.3	10	246	396
Enhancing Fuel and Energy Security	6.	4	6.5		4.0	17.0	10	306	456
Comprehensive Mitigation Review	6.	5	7.2		3.0	16.7	10	242	392
Locational Marginal Pricing of Capacity (SOM)	6 4.	8	6.2		4.0	15.0	10	205	355
Tailored Availability Metric	5.	3	5.9		3.0	14.2	10	328	478
Grid in Transition Discussion - Submitted by LIPA	6.	4	5.5		2.0	13.9	10	226	376
Reserves for Resource Flexibility	5.	0	5.6		3.0	13.5	10	280	430
Reserving Capacity for Balance-of-Period (BoP) Auctions	<u> </u>	0	5.0		2.0	12.0	10	306	456
Constraint Specific Transmission Shortage Pricing (SOM)	4 .	9 (4.9		2.0	11.8	7	249	354
Relocating the IESO Proxy Bus	6.	7	4.0		1.0	11.7	10	278	428
BSM Evaluation for Small Resources Outside of the Class Year (SOM)	4 .	1	4.5		3.0	11.6	7	168	273



Survey Appeal & NYISO Score

Projects are ordered by sum of the 3 scoring components

Proposed Projects	Raw Score (Avg.)		Weighted Score		ector	Sum of Scores	Appeal Score	NYISO Score w/o Appeal	NYISO Score inc. Appeal	
5 Minute Transaction Scheduling	4.8		4.4		1.0	10.2	7	227	332	
CRIS Tracking Class Year Redesign	4.7		4.3		1.0	10.0	7	325	430	
Reserve Enhancements for Constrained Areas (SOM)	2.9		3.8		2.0	8.7	7	251	356	
Linked Virtual Transactions	3.5		1.7		1.0	6.2	7	167	272	
Capacity Zone Elimination - Submitted by Central Hudson	2.0		2.8		1.0	5.8	7	132	237	
NYC Part A Test Exemption (SOM)	2.5		2.1		1.0	5.6	3	208	253	
Enhanced BSM Mitigation Study Period	2.0		2.4		1.0	5.5	3	183	228	
Enhanced BSM Forecasts Assumptions (SOM)	1.5		2.6		0.0	4.1	7	143	248	
WEELR Participation Model	1.1		1.0		0.0	2.1	0	117	117	
Communication of Voltage Schedule to Generators	0.7		1.2		0.0	1.9	0	83	83	
Mitigation Thresholds Review	0.6		0.7		0.0	1.3	0	281	281	



NYISO Scoring

Project	Product portfolio	Leader in Reliability	Leader in Market Design	Leader in Technology Innovation	Sustain and Enhance Robust Planning Processes	NYISO Annual Cost Reduction	Appeal	Market Efficiency	Post Production Sustainability	Compliance	Business Process (inclusive of technology impact on business process)	Reliability and Market	Cost	Multi-Year Dependency	Complexity of Business and Technology	Compliance	Score (1-1240)
Criteria Weights =	'	10	10	6	9	10	15	10	5	10	5	10	4	8	4	8	
Comprehensive Mitigation Review	Capacity Market Products	0	7	0	7	0	10	7	3	0	0	0	0	0	0	3	392
Enhancing Fuel and Energy Security	Capacity Market Products	10	7	0	3	0	10	7	3	0	0	0	0	3	0	0	456
Locational Marginal Pricing of Capacity (SOM)	Capacity Market Products	3	7	0	7	0	10	3	0	0	0	0	0	0	3	0	355
Tailored Availability Metric	Capacity Market Products	7	7	0	7	0	10	3	3	0	0	0	3	7	3	0	478
Ancillary Services Shortage Pricing (SOM)	Energy Market Products	7	3	0	0	0	10	3	7	0	3	7	7	3	7	0	480
Grid in Transition Discussion	Energy Market Products	3	7	0	3	0	10	0	7	0	0	0	7	3	3	0	376
Hybrid Storage Model	Energy Market Products	0	7	0	0	0	10	7	7	0	3	0	7	0	7	0	396
Relocating the IESO Proxy Bus	Energy Market Products	3	7	0	0	0	10	3	10	0	0	3	10	0	7	0	428
Reserves for Resource Flexibility	Energy Market Products	7	7	0	0	0	10	3	3	0	3	0	3	7	3	0	430
Reserving Capacity for TCC Balance-of-Period (BOP) Auctions	TCC Products	0	3	0	0	0	10	10	7	0	3	7	7	0	7	0	456
BSM Evaluation for Small Resources Outside of the Class Year (SOM)	Capacity Market Products	0	0	0	3	0	7	3	3	0	0	0	3	7	7	O NEW	273

NYISO Scoring

Project	Product portfolio	Leader in Reliability	Leader in Market Design	Leader in Technology Innovation	Sustain and Enhance Robust Planning Processes	NYISO Annual Cost Reduction	Appeal	. Market Efficiency	Post Production Sustainability	Compliance	Business Process (inclusive of technology impact on business process)	Reliability and Market	Cost	Multi-Year Dependency	Complexity of Business and Technology	Compliance	Score (1-1240)
Weights =	:	10	10	6	9	10	15	10	5	10	5	10	4	8	4	8	007
Capacity Zone Elimination	Capacity Market Products	3	3	0	3	0	<u></u>	3	3	0	0	0	0	0	0	0	237
Class Year Redesign	Capacity Market Products	0	0	3	3	0	7	3	7	7	7	3	7	3	7	0	430
Enhanced BSM Forecasts Assumptions (SOM)	Capacity Market Products	0	3	0	0	0	7	3	3	0	0	0	7	0	10	0	248
5 Minute Transaction Scheduling	Energy Market Products	3	7	0	0	0	7	7	3	0	0	3	0	0	3	0	332
Constraint Specific Transmission Shortage Pricing (SOM)	Energy Market Products	0	7	0	0	0	7	7	3	0	0	3	3	3	7	0	354
Linked Virtual Transactions	Energy Market Products	0	7	0	0	0	7	3	0	0	3	0	0	3	7	0	272
Reserve Enhancement for Constrained Areas (SOM)	Energy Market Products	0	10	0	0	0	7	10	3	0	0	0	0	3	3	0	356
Enhanced BSM Mitigation Study Period	Capacity Market Products	0	7	0	0	0	3	3	3	0	0	0	7	0	10	0	228
NYC Part A Test Exemption (SOM)	Capacity Market Products	3	3	0	0	0	3	3	10	0	0	0	7	0	10	0	253
Mitigation Thresholds Review	Energy Market Products	0	3	0	0	0	0	3	10	7	3	3	7	0	7	0	281
WEELR Participation Model	Energy Market Products	0	3	0	0	0	0	0	3	0	0	0	3	3	3	3	117
Communication of Voltage Schedule to Generators	Operations & Reliability Products	0	0	0	0	0	0	0	3	0	0	0	10	0	7	0	83



* No Changes from June 12th BPWG Materials



				Estir	mated Cos	st (in milli	ons)
Project Name	Product Area	Project Type	Proposed Deliverable	Labor	Capital	Prof. Serv.	Total
NYISO Budget (Rate Schedule 1) Cost Recovery Update	Business and Finance Products	: Continuing		0.06	0.00	0.00	0.06
BSM Evaluation for Small Resources Outside of the Class Year (SOM)	Capacity Market Products	Prioritize Market Design Complete		0.06	0.00	0.00	0.06
BSM Renewables Exemption Study	Capacity Market Products	Mandatory	Study Complete	0.05	0.00	0.30	0.35
Capacity Transfer Rights for Internal Transmission Upgrades (SOM)	Capacity Market Products	Future					
Capacity Zone Elimination	Capacity Market Products	Prioritize	Market Design Concept Proposed	0.17	0.00	0.55	0.72
Class Year Redesign	Capacity Market Products	Prioritize	Functional Requirements	0.02	0.00	0.00	0.02
Competitive Entry Exemption Non-Qualifying Contract Rule Review (SOM)	Capacity Market Products	Continuing		0.03	0.00	0.00	0.03



	Estir	mated Cos	st (in milli	ons)			
Project Name	Product Area	Project Type	Proposed Deliverable	Labor	Capital	Prof. Serv.	Total
Comprehensive Mitigation Review	Capacity Market Products	Prioritize	Study Defined	0.05	0.00	0.50	0.55
Demand Curve Reset	Capacity Market Products	Mandatory Study Complete		0.45	0.00	1.50	1.95
Dynamic Creation of Zones (SOM)	Capacity Market Products	Future					
Enhanced BSM Forecasts Assumptions (SOM)	Capacity Market Products	Prioritize	Market Design Concept Proposed	0.05	0.00	0.00	0.05
Enhanced BSM Mitigation Study Period	Capacity Market Products	Prioritize	Market Design Complete	0.05	0.00	0.00	0.05
Enhancing Fuel and Energy Security	Capacity Market Products	Prioritize	Market Design Concept Proposed	0.10	0.00	0.00	0.10
Locational Marginal Pricing of Capacity (SOM)	Capacity Market Products	Prioritize	Market Design Concept Proposed	0.06	0.00	0.50	0.56



	Estir	mated Cos	st (in milli	ons)			
Project Name	Product Area	Project Type	Proposed Deliverable	Labor	Capital	Prof. Serv.	Total
NYC Part A Test Exemption (SOM)	Capacity Market Products	Prioritize	Market Design Concept Proposed	0.03	0.00	0.00	0.03
Tailored Availability Metric	Capacity Market Products	Prioritize	Market Design Complete	0.12	0.00	0.05	0.17
DER Participation Model	DER Products Mandato		Software Design	1.99	0.27	1.00	3.26
Dual Participation	DER Products	Mandatory	Deployment	0.15	0.00	0.00	0.15
Expanding Capacity Eligibility	DER Products	Mandatory	Development Complete	0.75	0.00	1.00	1.75
Meter Service Entity for DER	DER Products	Mandatory	Functional Requirements	0.32	0.00	0.20	0.52
NYISO Pilot Framework	DER Products	Continuing	Study Complete	0.13	0.00	0.00	0.13
5 Minute Transaction Scheduling	Energy Market Products	Prioritize	Market Design Concept Proposed	0.09	0.00	0.00	0.09



				Estir	st (in milli	nillions)		
Project Name	Product Area	Project Type	Proposed Deliverable	Labor	Capital	Prof. Serv.	Total	
Ancillary Services Shortage Pricing (SOM)	Energy Market Products	Prioritize	Deployment	0.33	0.00	0.16	0.49	
Carbon Pricing	Energy Market Products	Continuing Development Complete		0.72	0.00	0.00	0.72	
Constraint Specific Transmission Shortage Pricing (SOM)	Energy Market Products	Prioritize	Functional Requirements	0.15	0.00	0.00	0.15	
Eliminate Fees for CTS Transactions with PJM (SOM)	Energy Market Products	Future						
Enhanced Fast Start Pricing	Energy Market Products	Mandatory	Deployment	0.32	0.00	0.40	0.72	
Enhanced PAR Modeling (SOM)	Energy Market Products	Future						
ESR Participation Model	Energy Market Products	Mandatory	Deployment	1.21	0.00	3.00	4.21	



						st (in milli	ons)
Project Name	Product Area	Project Type	Proposed Deliverable	Labor	Capital	Prof. Serv.	Total
Grid in Transition Enhancements	Energy Market Products	Prioritize	Study Complete	0.04	0.00	0.40	0.44
Hybrid Storage Model	Energy Market Products	Prioritize Market Design Complete		0.15	0.00	0.00	0.15
Linked Virtual Transactions	Energy Market Products	Prioritize Functional Requirements		0.14	0.00	0.30	0.44
Long Island PAR Optimization and Financial Rights (SOM)	Energy Market Products	Future					
Mitigation Thresholds Review	Energy Market Products	Prioritize	Market Design Concept Proposed	0.03	0.00	0.00	0.03
Relocating the IESO Proxy Bus	Energy Market Products	Prioritize Deployment		0.07	0.00	0.00	0.07
Reserve Enhancement for Constrained Areas (SOM)	Energy Market Products	Prioritize	Study Complete	0.12	0.00	0.40	0.52



					Estimated Cost (in mill			
Project Name	Product Area	Project Type	Proposed Deliverable	Labor	Capital	Prof. Serv.	Total	
Reserves for Resource Flexibility	Energy Market Products	Prioritize	Deployment	0.23	0.00	0.00	0.23	
RTC-RTD Convergence Improvements (SOM)	Energy Market Products	Future						
WEELR Participation Model	Energy Market Products	Prioritize	Market Design Concept Proposed	0.16	0.00	0.00	0.16	
Communication of Voltage Schedule to Generators	Operations & Reliability Products	Prioritize	Deployment	0.04	0.00	0.00	0.04	
Climate Change Impact and Resilience Study	Planning Products	Continuing	Study Complete	0.09	0.00	0.40	0.49	
On-Peak/Off-Peak TCC's	TCC Products	Future						
Reserving Capacity for TCC Balance-of-Period (BOP) Auctions	TCC Products	Prioritize	Market Design Complete	0.12	0.00	0.00	0.12	



Historic Budgets



Historic Project Budget Comparison

	Esti					
Project Budget	Labor	Capital	Prof. Serv.	Total	Mandatory	Continuing
2020 Candidate Projects	17.98	6.12	20.16	44.26	13.31	12.82
2019 Approved	11.47	4.65	12.82	28.95	9.40	14.82
2018 Approved	11.01	7.96	4.64	23.61	2.15	8.80
2017 Approved	11.10	6.18	4.59	21.87	1.01	9.10
2016 Approved	11.50	6.32	3.78	21.60	4.17	12.06
2015 Approved	11.63	5.29	5.63	22.55	5.67	NA



Next Steps



Next Steps

- Review the NYISO's initial project budget recommendation at the July 31st BPWG meeting
- Review the NYISO's revised project budget recommendation at the August 28th
 BPWG meeting



Questions?



The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system



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