

# 2018 Project Prioritization and Budgeting Process

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**Budget and Priorities Working Group**

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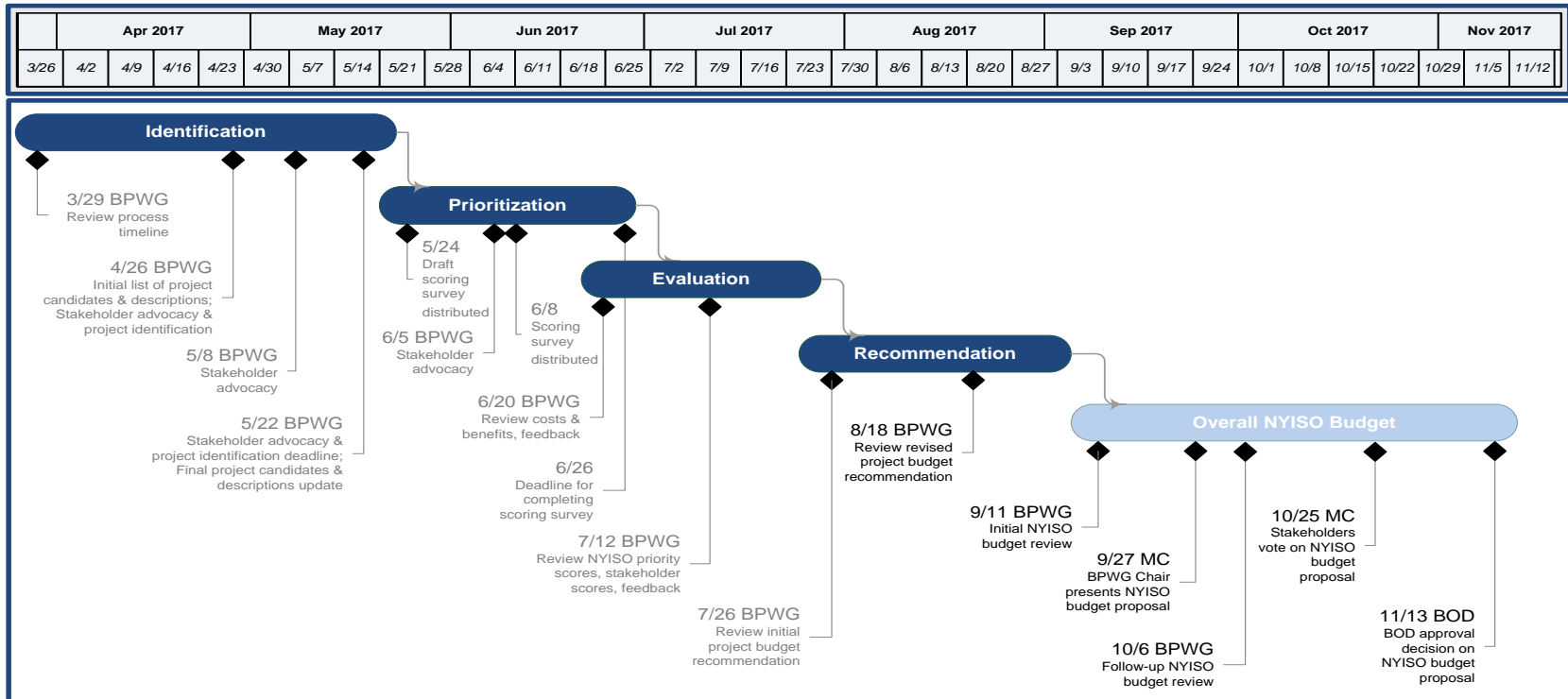
# Agenda

- 2018 Project Prioritization Process
- Project Prioritization Timeline
- Milestone Definitions
- Recommended 2018 Project Budget by Product Area
- Recommended 2018 Projects
- Historic Project Budget Comparison
- Next Steps

# 2018 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 the NYISO and stakeholder scoring of projects. The NYISO scores projects using objective criteria that reflects strategic alignment, expected outcomes, risks, and ability to execute. Stakeholders score projects based on their organizational priorities via a survey mechanism.
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.

# 2018 Proposed Project Prioritization Timeline



# 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.

# Recommended 2018 Project Budget by Product Area

Product Area	Estimated Cost (in millions )				Mandatory	Continuing	
	Labor	Capital	Prof. Serv.	Total			
Business Intelligence Products	0.95	0.11	0.82	1.88	-	1.88	
Capacity Market Products	1.95	-	0.84	2.79	0.89	1.09	
DER Products	1.09	0.02	0.50	1.60	0.81	-	
Energy Market Products	1.43	-	0.81	2.24	0.45	1.15	
Enterprise Products	2.79	6.03	0.69	9.51	-	0.90	↓ -0.84
Finance Products	1.28	-	0.14	1.42	-	0.95	
Operations & Reliability Products	5.85	2.33	4.31	12.49	-	11.72	
Planning Products	0.21	0.07	0.28	0.55	-	-	
TCC Products	-	-	-	-	-	-	
Total Cost	15.55	8.56	8.38	32.49	2.15	17.68	↓ -0.84
Total Cost less EMS/BMS Upgrade	11.01	7.96	4.64	23.61	2.15	8.80	↓ -0.84

# Recommended 2018 Projects

Project			Priority Scores				Estimated Cost (in millions )				
	NYISO	Stakeholder Average	Stakeholder Weighted Avg.	Org Count	Sector Count		Deliverable	Labor	Capital	Prof. Serv.	Total
Business Intelligence Products											
Enterprise Information Management - Data Integration Phase III			CONTINUING				Deploy	0.48	0.00	0.29	0.77
Public Website Content Management Platform and Redesign			CONTINUING				Deploy	0.31	0.11	0.48	0.90
NAESB PKI Phase II			CONTINUING				Deploy	0.16	0.00	0.06	0.22
Enterprise Information Management - Analytics Environments - Phase II	189		NYISO SCORED				Deploy	0.04	0.36	0.02	0.43
Third Party Test Environment	180	1.1	0.5	5	3		Deploy	0.14	0.00	0.00	0.14
Intranet Redesign	179		NYISO SCORED				Architecture Design	0.05	0.00	0.00	0.05
Mobile Functionality	101	0.7	0.6	3	1		Architecture Design	0.02	0.00	0.00	0.02

↕ ↗ Arrows used to denote any change of \$50k or more from prior presentation.

# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )				
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total	
Capacity Market Products											
Automate ICAP Import Rights			CONTINUING			Deploy	0.16	0.00	0.00	0.16	
RMR Cost Recovery Phase II			MANDATORY			Deploy	0.61	0.00	0.15	0.76	
ICAP AMS Redesign & Test Improvements Phase II			CONTINUING			Deploy	0.38	0.00	0.09	0.47	
Alternative Methods for LCRs (SOM)			CONTINUING			Market Design Complete	0.21	0.00	0.25	0.46	
CRIS for External-ROS Transmission Investments			MANDATORY			Functional Requirements	0.13	0.00	0.00	0.13	
ICAP AMS Redesign & Test Improvements Phase III			CONTINUING			Functional Requirements	0.13	0.00	0.03	0.16	
On Ramps and Off Ramps	657	4.6	8.0	26	5	Market Design Complete	0.21	0.00	0.35	0.56	
Winter CRIS Enhancements	492	0.1	0.0	1	0	Deploy	0.10	0.00	0.00	0.10	
Performance Assurance	477	3.9	6.1	26	5	Concept Proposed	0.12	0.00	0.00	0.12	

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# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )			
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total
Capacity Market Products										
Competitive Entry Exemption for Increased CRIS	456	2.1	2.5	25	5	Concept Proposed	0.01	0.00	0.00	0.01
BSM Repowering	347	7.9	5.8	25	4	Concept Proposed	0.01	0.00	0.00	0.01
Treatment of Locality Exports and Imports (SOM)	247	1.9	4.0	10	4	Concept Proposed	0.15	0.00	0.40	0.55
Enhanced BSM Mitigation Study Period	238	0.2	0.5	2	2	Concept Proposed	0.01	0.00	0.00	0.01
Explore Alternate LCR – Reliability Impact	232	2.0	4.3	16	4	Concept Proposed	0.30	0.00	0.45	0.75
CRIS Treatment for Exports	226	0.4	0.4	3	1	Concept Proposed	0.04	0.00	0.00	0.04
Aligning ECR Bilateral Deadlines	190	0.4	0.4	1	1	Concept Proposed	0.02	0.00	0.00	0.02
Review Capacity Physical Withholding Rules	159	0.8	1.1	6	2	Concept Proposed	0.01	0.00	0.00	0.01
Payment for Locality Exports	111	0.1	0.0	1	0	Concept Proposed	0.07	0.00	0.00	0.07

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# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )			
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total
DER Products										
FERC Order No. 745	MANDATORY					Deploy	0.22	0.00	0.00	0.22
DER Participation Model	MANDATORY					Market Design Complete	0.34	0.00	0.25	0.59
DER Pilot Framework	413	4.6	4.1	14	3		Deploy	0.32	0.00	0.25
Granular Pricing & Market Price Delivery	373	3.8	4.7	27	4	Deploy	0.20	0.02	0.00	0.22

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# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )			
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total
Energy Market Products										
FERC Order 831: Offer Caps	MANDATORY					Deploy	0.39	0.00	0.06	0.45
Integrating Public Policy	CONTINUING					Concept Proposed	0.40	0.00	0.75	1.15
Model 100+kV Transmission Constraints (SOM)	645	16.5	9.3	39	5	Market Design Complete	0.12	0.00	0.00	0.12
Energy Storage Integration and Optimization	624	10.0	8.2	42	5	Market Design Complete	0.24	0.00	0.00	0.24
Large Solar Participation Model	601	5.6	4.1	37	5	Concept Proposed	0.06	0.00	0.00	0.06
RTC-RTD Convergence Improvements (SOM)	586	3.4	4.1	28	4	Concept Proposed	0.12	0.00	0.00	0.12
Constraint Specific Transmission Demand Curves (SOM)	370	1.2	1.2	4	2	Study Complete	0.12	0.00	0.00	0.12

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# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )			
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total
Energy Market Products										
5-minute Transaction Scheduling	232	1.5	1.3	7	2	Study Comp.	0.07	0.00	0.30	0.37
Mitigation Bid Transparency	190	1.1	0.5	5	1	Deploy	0.06	0.00	0.00	0.06
Reinstitute Import Guarantees	190	1.3	1.2	4	1	Concept Proposed	0.06	0.00	0.00	0.06
15-minute Transaction Scheduling — IESO	147	0.4	0.2	3	1	Concept Proposed	0.05	0.00	0.00	0.05

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# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )				
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total	
Enterprise Products											
Database Platform Upgrades Phase II			CONTINUING			Deploy	0.22	0.45	0.09	0.76	
Telephony System Upgrade			CONTINUING			Deploy	0.14	0.00	0.00	0.14	
Software AG Upgrade	377		NYISO SCORED			Deploy	0.24	0.00	0.00	0.24	
Application Platform Upgrade Phase V	346		NYISO SCORED			Deploy	0.70	0.82	0.15	1.67	
Planning High Performance Computing (HPC) Platform Upgrade	304		NYISO SCORED			Deploy	0.13	0.54	0.00	0.67	
Microsoft Systems Upgrade	275		NYISO SCORED			Deploy	0.39	2.25	0.00	2.64	
Corporate Workstation Replacement	263		NYISO SCORED			Deploy	0.13	0.00	0.07	0.20	
Laptop Refresh and Upgrade	262		NYISO SCORED			Deploy	0.16	0.00	0.08	0.24	
Identity and Access Management (IAM) – 2018	261		NYISO SCORED			Deploy	0.33	0.00	0.20	0.52	
Application Testing Improvements Phase II	224		NYISO SCORED			Deploy	0.20	0.21	0.10	0.51	
Network Infrastructure Upgrade	214		NYISO SCORED			Deploy	0.16	1.76	0.00	1.92	

↓ -0.25  
↓ -0.59

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# Recommended 2018 Projects

Project			Priority Scores			Deliverable	Estimated Cost (in millions )			
	NYISO	Stakeholder Average	Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total
Finance Products										
North Subzone Redistricting	CONTINUING					Deploy	0.37	0.00	0.00	0.37
Expense Reports Automation	CONTINUING					Deploy	0.16	0.00	0.13	0.29
Rate Schedule 12 Settlement	CONTINUING					Software Design	0.29	0.00	0.00	0.29
FERC Form1 Redesign	253	NYISO SCORED				Deploy	0.10	0.00	0.02	0.12
Electric Quarterly Report (EQR) DSS Report Update	252	1.7	1.7	9	3	Deploy	0.11	0.00	0.00	0.11
CMS Projected True-up Exposure Enhancement	244	2.1	1.6	8	2	Deploy	0.17	0.00	0.00	0.17
Vendor Management Tool	229	NYISO SCORED				Functional Requirements	0.08	0.00	0.00	0.08
Transactions Modifications & Confirmation Tool	206	NYISO SCORED				Architecture Design	0.04	0.00	0.00	0.04
CMS/ ConInvoice Data Integration	206	NYISO SCORED				Functional Requirements	0.04	0.00	0.00	0.04

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# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )				
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total	
Operations & Reliability Products											
EMS/BMS System Upgrade			CONTINUING			Dev. Comp.	4.53	0.60	3.74	8.88	
TOA Platform Upgrade Phase II			CONTINUING			Deploy	0.53	0.00	0.49	1.02	
PI System Upgrade			CONTINUING			Dev. Comp.	0.11	0.00	0.00	0.11	
EMS/BMS Workstation Upgrade			CONTINUING			Dev. Comp.	0.15	1.08	0.00	1.23	
Gurobi (MIP) Hardware Refresh			CONTINUING			Dev. Comp.	0.05	0.30	0.00	0.35	
Gurobi (MIP) Software Upgrade			CONTINUING			Dev. Comp.	0.13	0.00	0.00	0.13	
2017 Reference Level Software Enhancements			CONTINUING			Deploy	0.35	0.00	0.18	0.53	
Load Forecaster Upgrade & Buildout	400		NYISO SCORED			Dev. Comp.	0.21	0.06	0.08	0.35	
EPG PMU Enhancements	312		NYISO SCORED			Deploy	0.13	0.30	0.00	0.43	

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# Recommended 2018 Projects

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )			
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total
Planning Products										
Model on Demand Upgrade and Build-Out	375	0.9	0.4	5	2	Deploy	0.06	0.07	0.03	0.16
<del>Comprehensive System Transmission Planning Process Review</del>	303	5.2	5.8	20	3	Concept Proposed	0.04	0.00	0.05	0.09
Interconnection Project Queue (or Portal) Automation	258	2.6	3.4	20	5	Functional Requirements	0.11	0.00	0.20	0.31
<del>Interconnection Process Review</del>	<del>222</del>	<del>5.7</del>	<del>8.3</del>	<del>25</del>	<del>5</del>	<del>Concept Proposed</del>	<del>0.10</del>	<del>0.00</del>	<del>0.03</del>	<del>0.13</del>

Project	NYISO	Stakeholder Average	Priority Scores			Deliverable	Estimated Cost (in millions )			
			Stakeholder Weighted Avg.	Org Count	Sector Count		Labor	Capital	Prof. Serv.	Total
TCC Products										
On-Peak/Off-Peak TCCs	192	4.0	3.6	12	2	Study Comp.	0.04	0.00	0.00	0.04

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# Historic Project Budget Comparison

Project Budget Including EMS/BMS Upgrade	Estimated Cost (in millions )				Mandatory	Continuing	
	Labor	Capital	Prof. Serv.	Total			
2018 Recommended	15.55	8.56	8.38	32.49	2.15	17.68	↓ -0.84
2017 Approved	15.43	7.38	13.51	36.31	1.01	23.55	
2016 Approved	13.79	8.02	6.56	28.37	4.17	18.83	
2015 Approved	11.81	5.29	7.26	24.38	5.67	NA	
Project Budget Less EMS/BMS Upgrade	Labor	Capital	Prof. Serv.	Total	Mandatory	Continuing	
2018 Recommended	11.01	7.96	4.64	23.61	2.15	8.80	↓ -0.84
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

- The NYISO plans to review the initial NYISO budget at the September 11<sup>th</sup> BPWG meeting
- On September 27<sup>th</sup> the BPWG Chair will present the NYISO budget proposal at the MC meeting.

# Questions?

# The Mission of the New York Independent System Operator is to:

- Serve the public interest and
- Provide benefit to stakeholders 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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