

2024 Enterprise Projects Cost, NYISO Score & Project Constraints

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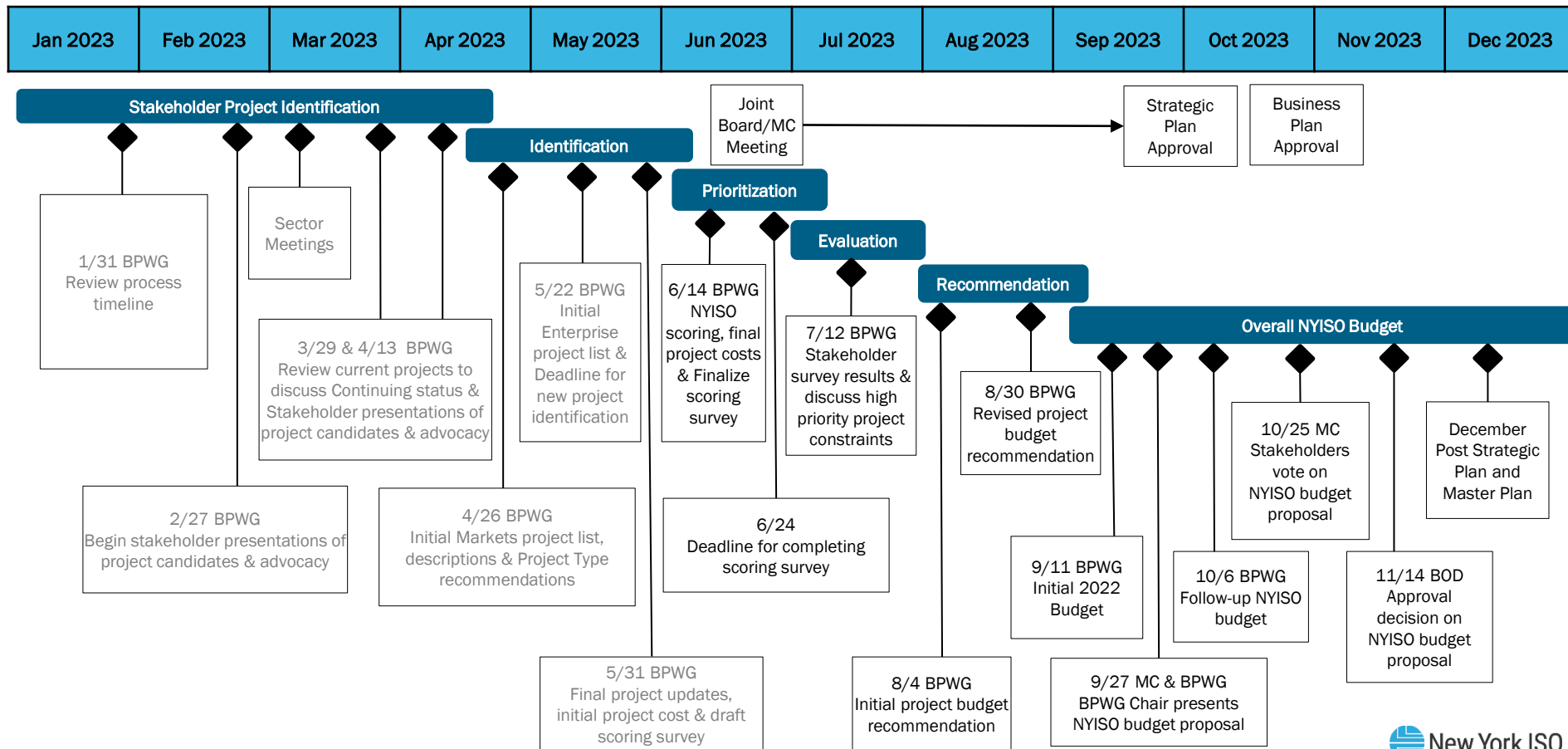
June 14, 2023, KCC

Agenda

- **Project Prioritization Timeline**
- **Project Descriptions**
- **2024 Enterprise Project Candidates**
- **NYISO Scores & High Priority Project Constraints**
- **Next Steps**

Project Prioritization Timeline

2024 Proposed Project Prioritization Timeline



Project Descriptions

Project Descriptions

- **The NYISO has developed project descriptions for 51 proposed Enterprise projects**
 - 7 Business & Finance, 6 Capacity Market, 2 Energy Markets, 20 Enterprise, 1 New Resource, 10 Operations and Reliability, 5 Planning & 0 TCC Market
 - 1 Mandatory, 0 Continuing, 50 Prioritize & 0 Future
- **Last year, there were 50 proposed Enterprise projects at this time in the project prioritization process**
- **Project descriptions are included with today's posted meeting materials**

2024 Enterprise Project Candidates - Updates, Costs, and Deliverables

Prioritize 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
1	3rd Floor Data Center Migration (Krey)	Enterprise	Prioritize	Deployment		0.09	0.90	0.00	0.99
2	Access Management Program Enhancements	Enterprise	Prioritize	Deployment		0.62	0.00	0.10	0.72
3	Application Platform Upgrade	Enterprise	Prioritize	Deployment	Deployment	0.93	0.00	0.00	0.93
4	Automation of DMNC Validation	Operations & Reliability	Prioritize	Deployment		0.15	0.00	0.00	0.15
5	Bidding Upload Download Security Enhancements	Enterprise	Prioritize	Deployment		0.24	0.00	0.00	0.24
6	Block Storage Refresh	Enterprise	Prioritize	Deployment	Deployment	0.11	0.96	0.40	1.46
7	Budgeting Tool	Business & Finance	Prioritize	Deployment		0.16	0.15	0.08	0.38

Prioritize 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
8	Building Management System (BMS) Controls Upgrade	Enterprise	Prioritize	Deployment	Deployment	0.34	1.00	0.00	1.34
9	Capacity Analysis Commitment Tool (CACT)	Operations & Reliability	Prioritize	Deployment		0.23	0.00	0.75	0.98
10	Cisco Server Refresh - Linux	Enterprise	Prioritize	Deployment	Development Complete	0.12	0.94	0.00	1.06
11	CMS and ConInvoice Data Integration	Business & Finance	Prioritize	Deployment	Deployment	0.39	0.00	0.00	0.39
12	Conference Room Technology Upgrade	Enterprise	Prioritize	Deployment		0.05	0.32	0.06	0.42
13	ConInvoice Testability Improvements	Business & Finance	Prioritize	Deployment		0.19	0.00	0.00	0.19
14	Control Room Logging Replacement	Operations & Reliability	Prioritize	Functional Requirements		0.10	0.00	0.00	0.10

Prioritize 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
15	Demand Forecasting Operational Reporting Enhancements	Planning	Prioritize	Deployment	Functional Requirements	0.20	0.00	0.02	0.22
16	EMS/BMS Operational Enhancements	Operations & Reliability	Prioritize	Deployment	Deployment	0.09	0.00	0.60	0.69
17	EMS/BMS Technologies Upgrade	Operations & Reliability	Prioritize	Development Complete		1.09	0.00	2.16	3.25
18	Enhanced Exterior Security Profile (Carmen)	Enterprise	Prioritize	Deployment		0.04	1.20	0.00	1.24
19	Enterprise Project Collaboration	Enterprise	Prioritize	Study Complete		0.15	0.10	0.00	0.25
20	Fence Vibration System Replacement (Krey)	Enterprise	Prioritize	Deployment		0.02	0.15	0.15	0.32
21	Generator Data Reporting System	Capacity Market	Prioritize	Study Complete		0.32	0.00	0.25	0.57

Prioritize 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
22	Krey Control Room A/V Replacement	Enterprise	Prioritize	Deployment	Deployment	0.02	0.10	0.10	0.22
23	ICAP AMS Improved System Integrations, Customer Transitions and Offers Project	Capacity Market	Prioritize	Functional Requirements		0.12	0.00	0.00	0.12
24	ICAP Auction Simulator Enhancements	Capacity Market	Prioritize	Functional Requirements		0.16	0.00	0.00	0.16
25	ICAP Supplier Status Enhancements	Capacity Market	Prioritize	Functional Requirements		0.09	0.00	0.00	0.09
26	IT Development and Control of Compliance Reports	Operations & Reliability	Prioritize	Deployment		0.22	0.00	0.00	0.22
27	LDAP Upgrade	Enterprise	Prioritize	Deployment		0.31	0.03	0.00	0.34
28	LFDR Upgrade and Enhancements	Planning	Prioritize	Deployment	Deployment	0.53	0.00	0.00	0.53

Prioritize 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
29	Market Validation, Reporting and Penalty Enhancements	Capacity Market	Prioritize	Deployment	Software Design	0.29	0.00	0.25	0.54
30	Micro-Segmentation	Enterprise	Prioritize	Deployment	Study Complete	0.26	0.15	0.05	0.46
31	Microsoft 365	Enterprise	Prioritize	Deployment	Deployment	0.33	0.26	0.02	0.61
32	Midrange and Storage Upgrade	Enterprise	Prioritize	Study Complete		0.18	0.00	0.15	0.33
33	Network Infrastructure Upgrade	Enterprise	Prioritize	Deployment	Deployment	0.30	0.50	0.15	0.95
34	New Ties and Gens Management	Business & Finance	Prioritize	Functional Requirements		0.14	0.00	0.00	0.14
35	Office Mechanical Systems (Krey)	Enterprise	Prioritize	Deployment		0.08	1.95	0.00	2.03

Prioritize 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
36	On-Boarding of New Resources	New Resource	Prioritize	Study Complete	Study Complete	0.07	0.00	0.00	0.07
37	Operations - NERC Audit Preparation	Operations & Reliability	Prioritize	Study Complete		0.11	0.00	0.09	0.20
38	Optimization Solver Upgrade (Gurobi)	Operations & Reliability	Prioritize	Deployment		0.15	0.50	0.32	0.97
39	Outage States Portal Dashboard	Capacity Market	Prioritize	Functional Requirements		0.09	0.00	0.00	0.09
40	Price Correction Report Modifications	Operations & Reliability	Prioritize	Deployment		0.14	0.00	0.00	0.14
41	Procurement and Implementation of PSCAD and E Tran	Planning	Prioritize	Deployment		0.09	0.25	0.30	0.65
42	Production Cost Software Upgrade	Planning	Prioritize	Software Design		0.22	0.00	0.30	0.52

Prioritize 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
43	Reliability Compliance Tools Enhancements	Operations & Reliability	Prioritize	Deployment		0.36	0.00	0.38	0.73
44	Renewable Energy Forecast Integration and Reporting Enhs	Planning	Prioritize	Issue Discovery		0.08	0.00	0.00	0.08
45	SDX Replacement	Business & Finance	Prioritize	Deployment		0.18	0.00	0.00	0.18
46	Secure Communication Channel with MPs	Energy Market	Prioritize	Deployment	Deployment	0.13	0.00	0.25	0.38
47	Telemetry Tone Gear Upgrade	Enterprise	Prioritize	Deployment		0.09	0.65	0.25	0.99
48	Thunderstorm Alert	Business & Finance	Prioritize	Functional Requirements		0.13	0.00	0.00	0.13
49	Watchlist for Rest of State Units	Energy Market	Prioritize	Deployment		0.10	0.00	0.00	0.10
50	Windows Server Hardware Upgrade	Enterprise	Prioritize	Deployment	Deployment	0.42	2.12	0.00	2.54

Mandatory 2024 Enterprise Projects

						Estimated Cost (in millions)			
Item	Project	Product Area	Project Type	2024 Proposed Deliverable	2023 Deliverable	Labor	Capital	Prof. Serv.	Total
51	Transmission Project Developer Billing Access	Business & Finance	Mandatory	Deployment		0.25	0.00	0.00	0.25

NYISO Scores & High Priority Project Constraints

NYISO Scores

Item	Project	Product Area	Strategy	Operational or Market Issue	Cost & Complexity	NYISO Score	Rank
			4	4	2	NYISO Score	
43	Reliability Compliance Tools Enhancements	Operations & Reliability	6.0	8.0	4.0	64	1
47	Telemetry Tone Gear Upgrade	Enterprise	5.0	10.0	2.0	64	1
6	Block Storage Refresh	Enterprise	5.0	10.0	1.0	62	3
16	EMS/BMS Operational Enhancements	Operations & Reliability	6.0	8.0	3.0	62	3
21	Generator Data Reporting System	Capacity Market	7.0	6.0	5.0	62	3
26	IT Development and Control of Compliance Reports	Operations & Reliability	6.0	7.0	5.0	62	3
27	LDAP Upgrade	Enterprise	4.0	9.0	5.0	62	3
37	Operations - NERC Audit Preparation	Operations & Reliability	5.0	7.0	7.0	62	3

NYISO Scores

Item	Project	Product Area	Strategy	Operational or Market Issue	Cost & Complexity	NYISO Score	Rank
			4	4	2	NYISO Score	
3	Application Platform Upgrade	Enterprise	6.0	8.0	2.0	60	9
8	Building Management System (BMS) Controls Upgrade	Enterprise	4.0	10.0	2.0	60	9
9	Capacity Analysis Commitment Tool (CACT)	Operations & Reliability	8.0	7.0	0.0	60	9
10	Cisco Server Refresh - Linux	Enterprise	5.0	10.0	0.0	60	9
17	EMS/BMS Technologies Upgrade	Operations & Reliability	5.0	10.0	0.0	60	9
22	Krey Control Room A/V Replacement	Enterprise	4.0	8.0	6.0	60	9
23	ICAP AMS Improved System Integrations, Customer Transitions and Offers Project	Capacity Market	6.0	7.0	4.0	60	9
44	Renewable Energy Forecast Integration and Reporting Enhancements	Planning	7.0	6.0	4.0	60	9
50	Windows Server Hardware Upgrade	Enterprise	5.0	10.0	0.0	60	9

NYISO Scores

Item	Project	Product Area	Strategy	Operational or Market Issue	Cost & Complexity	NYISO Score	Rank
			4	4	2	NYISO Score	
1	3rd Floor Data Center Migration (Krey)	Enterprise	6.0	8.0	1.0	58	18
2	Access Management Program Enhancements	Enterprise	7.0	5.0	5.0	58	18
5	Bidding Upload Download Security Enhancements	Enterprise	5.0	7.0	5.0	58	18
7	Budgeting Tool	Business & Finance	5.0	7.0	5.0	58	18
11	CMS and ConInvoice Data Integration	Business & Finance	5.0	6.0	7.0	58	18

NYISO Scores

Item	Project	Product Area	Strategy	Operational or Market Issue	Cost & Complexity	NYISO Score	Rank
			4	4	2	NYISO Score	
29	Market Validation, Reporting and Penalty Enhancements	Capacity Market	3.0	8.0	7.0	58	18
32	Midrange and Storage Upgrade	Enterprise	4.0	8.0	5.0	58	18
33	Network Infrastructure Upgrade	Enterprise	5.0	8.0	3.0	58	18
35	Office Mechanical Systems (Krey)	Enterprise	5.0	9.0	1.0	58	18
38	Optimization Solver Upgrade (Gurobi)	Operations & Reliability	5.0	7.0	5.0	58	18
42	Production Cost Software Upgrade	Planning	5.0	7.0	5.0	58	18

NYISO Scores

Item	Project	Product Area	Strategy	Operational or Market Issue	Cost & Complexity	NYISO Score	Rank
			4	4	2	NYISO Score	
12	Conference Room Technology Upgrade	Enterprise	5.0	7.0	4.0	56	29
18	Enhanced Exterior Security Profile (Carmen)	Enterprise	5.0	8.0	2.0	56	29
20	Fence Vibration System Replacement (Krey)	Enterprise	4.0	7.0	6.0	56	29
30	Micro-Segmentation	Enterprise	5.0	7.0	4.0	56	29
31	Microsoft 365	Enterprise	7.0	5.0	4.0	56	29
41	Procurement and Implementation of PSCAD and E Tran	Planning	7.0	5.0	4.0	56	29
45	SDX Replacement	Business & Finance	4.0	7.0	6.0	56	29
46	Secure Communication Channel with MPs	Energy Market	3.0	7.0	8.0	56	29

NYISO Scores

Item	Project	Product Area	Strategy	Operational or Market Issue	Cost & Complexity	NYISO Score	Rank
			4	4	2	NYISO Score	
14	Control Room Logging Replacement	Operations & Reliability	3.0	7.0	7.0	54	37
15	Demand Forecasting Operational Reporting Enhancements	Planning	4.0	7.0	5.0	54	37
28	LFDR Upgrade and Enhancements	Planning	5.0	6.0	5.0	54	37
19	Enterprise Project Collaboration	Enterprise	6.0	4.0	6.0	52	40
36	On-Boarding of New Resources	New Resource	4.0	6.0	6.0	52	40
24	ICAP Auction Simulator Enhancements	Capacity Market	6.0	5.0	3.0	50	42
34	New Ties and Gens Management	Business & Finance	3.0	6.0	6.0	48	43
48	Thunderstorm Alert	Business & Finance	3.0	6.0	6.0	48	43

NYISO Scores

Item	Project	Product Area	Strategy	Operational or Market Issue	Cost & Complexity	NYISO Score	Rank
			4	4	2	NYISO Score	
25	ICAP Supplier Status Enhancements	Capacity Market	1.0	6.0	7.0	42	45
39	Outage States Portal Dashboard	Capacity Market	2.0	5.0	6.0	40	46
40	Price Correction Report Modifications	Operations & Reliability	1.0	5.0	8.0	40	46
13	ConInvoice Testability Improvements	Business & Finance	3.0	4.0	5.0	38	48
49	Watchlist for Rest of State Units	Energy Market	2.0	3.0	9.0	38	48
4	Automation of DMNC Validation	Operations & Reliability	1.0	3.0	7.0	30	50

High Priority Project Constraints

- Projects ranked up to 18 appear to be supportable
- The NYISO has identified resource constraints starting with projects ranked 29 and higher for multiple teams

Next Steps

Next Steps

- **Contact Kevin Pytel or Member Relations for any survey related issues**
 - Send email to Kevin Pytel at kpytel@nyiso.com or call his cell at (518) 428-9528 for assistance
- **Stakeholder scoring and high priority project constraints results will be presented at the July 12th BPWG**

Our Mission & Vision



Mission

Ensure power system reliability
and competitive markets for New
York in a clean energy future



Vision

Working together with stakeholders
to build the cleanest, most reliable
electric system in the nation

Questions?

Appendix – Milestones and Project Prioritization Phases

Milestone Definitions

Milestone	Definition
Issue Discovery	NYISO has facilitated education session(s) for stakeholder knowledge development of problem/issue, conducted stakeholder solicitation of potential solutions to address problem/issue, and summarized findings at a working group meeting for potential ranking and future project identification.
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.
Study Complete	Scope of work to be performed has been completed; results and recommendations have been presented to the appropriate Business Owners and stakeholders.
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 such that the proposal can be presented for a vote at the BIC, OC, or MC to define further action on the proposal.
Functional Requirements	NYISO has completed documentation of the functional requirements and the Business Owner has approved.
Architectural Design	The architectural design document is complete and software development is ready to begin.
Projects with the following Milestones will generally be proposed as Continuing in future years, subject to Stakeholder input	
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.

Project Prioritization Process

Phase	Description
Stakeholder Project Identification	Stakeholders may present project ideas at stakeholder meetings, sector meetings, get feedback and refine their proposal during this phase before the NYISO provides a comprehensive list of candidate projects for consideration.
Identification	The NYISO develops a Markets and Enterprise project candidate lists from regulatory obligations, strategic initiatives, State of the Market recommendations, infrastructure enhancements, product plans and stakeholder proposals. These are presented and further refined with stakeholder input during this phase.
Prioritization	This 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	Projects that are key to support Strategic Initiatives, FERC Orders, maintain reliable operations, or sustain the operation of the NYISO business. These projects will be included in the budget
Continuing	Approved in a prior year and have progressed to either Software Design, Development Complete, or Deployment. 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 into 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.