

2022 Final Project Budget Recommendation

Brian Hurysz

Manager, Enterprise Infrastructure Products

Budget and Priorities Working Group

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Agenda

- Project Prioritization Phases, Milestones, Survey, and Timeline
- Project Updates
- Historic Budgets
- Stakeholder Scored Projects
- Final Market Project Budget Recommendation
- Final Enterprise Project Budget Recommendation
- Next Steps



Project Prioritization Phases, Milestones, Survey, and Timeline



Project Prioritization Process

| Phase | Description |
|---------------------------------------|---|
| Stakeholder Project Identification | Stakeholders may present project ideas at stakeholder meetings and sector meetings, receive 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 based on regulatory obligations, strategic initiatives, State of the Market recommendations, infrastructure enhancements, product plans, and stakeholder proposals. These project candidates 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 reflect 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 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 scored by the NYISO depending on their Project Type, 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 scored by the NYISO and included in the stakeholder survey depending on their Project Type. |



Project Type

| Project Type | Description |
|--------------|--|
| Mandatory | Strategic Initiatives and FERC Orders. These projects will be included in the budget |
| Continuing | Projects approved in a prior year and that have progressed to either Software Design, Development Complete, or Deployment will generally be proposed as Continuing. 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. |



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 concept such that the proposal can be presented for a vote at the BIC 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 followi | ng 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. |

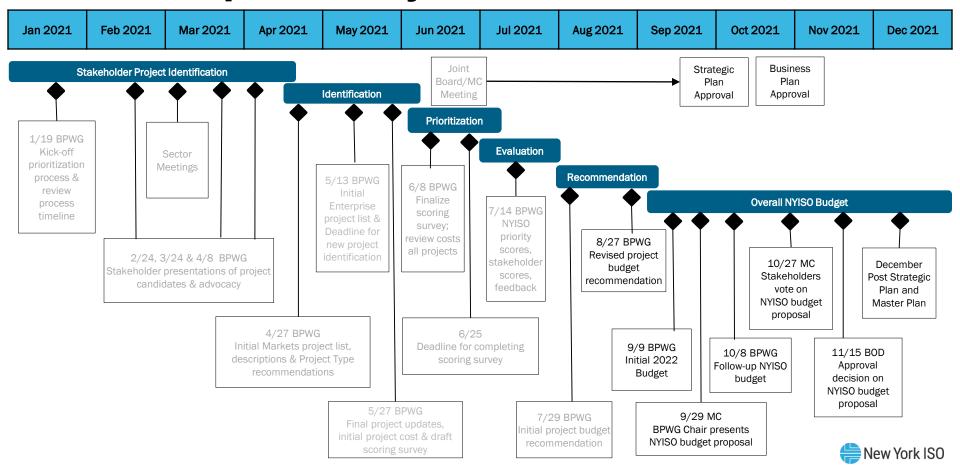


Project Prioritization Criteria * Same as used in 2019

| | PRIORITIZATION CRITERIA | | | | | | | | | | |
|---------------------------------------|--|--|--|--|---|---|--|--|--|--|--|
| 0-4-4 | Outhouto | Criteria Criteria HIGH MEDIUM | | LOW | NONE | | | | | | |
| Category | Criteria | Weight | 10 | 7 | 3 | 0 | | | | | |
| | Leader in Reliability | 10 | 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 | 9 | 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) | or more of survey resp s Appeal 15 and average across th points or more; or eith | | 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 | sector of 5 points or more; ; or either raw or weighted | 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 | | | | | |
| | , l | | 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) | Reliability and Market | 10 | 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 impac | | | | | |
| | 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 | Total project cost (current & future years) estimated >\$1N | | | | | |
| Execution (If we do this | Multi-Year Dependency | Multi-Year Dependency 8 Continuation of a multi-year project - postponement significantly disrupts value of previous investments 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 | 4 | 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 | | | | | |



2022 Proposed Project Prioritization Timeline



Project Updates



Project Updates (From July 29th BPWG)

- In order to fit several high priority projects in the budget recommendation, some adjustments to the proposed commitments are recommended
- The proposed commitment for Internal Controllable Lines of Market Design Complete is being changed to Market Design Concept Proposed so that the project can be included in the final budget recommendation along with other high appeal projects
- The proposed commitment for Improved Duct-Firing Cycle Modeling (SOM) of Market Design Complete is being changed to Market Design Concept Proposed so that the project can be included in the final budget recommendation along with other high appeal projects
- The final budget recommendation proposes adding 2 additional market design headcount to reduce some professional service on market design projects, include Hybrid aggregation in the initial budget recommendation and keep DER Participation Model on track for 2022 deployment



Internal Controllable Lines

- Several stakeholders provided feedback on the commitment change for this top-rated stakeholder scored project
- The NYISO is committed to working on Internal Controllable Lines throughout 2022 even if it achieves the MDCP milestone early
- Given the importance of this project to stakeholders, the NYISO recommends making this project continuing for 2023 project prioritization
- Based on the current plans for 2022 and 2023, the NYISO still expects to complete this project in 2025



Historic Budgets

No changes from July 29th BPWG



2022 Proposed Projects Compared to Historic Approved Budgets

| | Estin | | | | | |
|---------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Project Budget* | Labor | Capital | Prof. Serv. | Total | Mandatory | Continuing |
| 2022 Proposed Projects | 16.82 | 12.65 | 18.65 | 48.12 | 12.39 | 17.23 |
| 2022 Final Recommendation | 13.36 | 12.48 | 11.35 | 37.20 | 11.56 | 16.95 |
| 2021 Approved | 11.58 | 5.92 | 9.02 | 26.52 | 7.58 | 14.15 |
| 2020 Approved | 13.57 | 5.73 | 12.40 | 31.69 | 10.48 | 10.74 |
| 2019 Approved* | 11.47 | 4.65 | 12.82 | 28.95 | 9.40 | 14.82 |



^{*} Excludes EMS/BMS Upgrade project as it had separate financing

Markets & Enterprise Budget Breakdown

| | Markets I |) | | | | |
|------------------------------|------------|--------------|-------------|-------|-----------|------------|
| Project Budget* | Labor | Capital | Prof. Serv. | Total | Mandatory | Continuing |
| 2022 Final Recommendation | 7.79 | 0.10 | 7.52 | 15.41 | 11.56 | 1.18 |
| 2021 Approved | 6.45 | 0.10 | 5.54 | 12.09 | 5.80 | 4.58 |
| 2020 Approved | 6.89 | 0.27 | 5.85 | 13.01 | 10.10 | 0.77 |
| | Enterprise | Estimated Co | | | | |
| Project Budget* | Labor | Capital | Prof. Serv. | Total | Mandatory | Continuing |
| 2022 Final Recommendation | 5.57 | 12.38 | 3.83 | 21.79 | 0.00 | 15.77 |
| 2021 Approved | 5.13 | 5.82 | 3.49 | 14.44 | 1.77 | 9.57 |
| 2020 Approved | 6.67 | 5.46 | 6.55 | 18.68 | 9.97 | 10.74 |

Note: The NYISO did not have separate Market and Enterprise categories prior to 2020



Stakeholder Scored Projects

No changes from July 29th BPWG



Budget Recommendations for Stakeholder Scored Projects

Projects excluded from initial recommendation are shown as strikethrough

| Proposed Projects | aw Score (Avg.) | ٧ | Veighted Score | | ector Count | Sum of Scores | Appeal Score | Stakeholder Appeal |
|--|--------------------|---|-------------------|---|----------------|------------------|-----------------|-----------------------|
| Internal Controllable Lines | 12.8 | | 12.2 | | 5.0 | 30.0 | 10 | High |
| Improving Capacity Accreditation (SOM) | 9.2 | | 12.1 | | 3.0 | 24.3 | 10 | High |
| Coordination of Interconnection and Transmission Expansion Study | 9.8 | | 10.9 | | 4.0 | 24.8 | 10 | High |
| Hybrid Aggregation Model | 9.7 | | 9.7 | | 4.0 | 23.4 | 10 | High |
| Engaging the Demand Side | 9.3 | | 8.5 | | 3.0 | 20.8 | 10 | High |
| Dynamic Reserves (SOM) | 6.1 | | 7.6 | 0 | 2.0 | 15.7 | 10 | High |
| Grid Services from Renewable Generators | 5.7 | | 5.7 | | 3.0 | 14.4 | 10 | High |
| Time Differentiated TCCs- | 4.9 | | 4.7 | | 1.0 | 10.6 | 7 | Medium |
| CRIS Expiration Evaluation | 3.0 | | 3.8 | | 2.0 | 8.8 | 7 | Medium |
| Improved Duct-Firing Cycle Modeling (SOM) | 3.7 | | 2.9 | | 1.0 | 7.6 | 7 | Medium |

| | = 10, High Stakeholder |
|---|-------------------------|
| | Appeal |
| | = 7, Medium Stakeholder |
| | Appeal |
| | = 3, Low Stakeholder |
| 0 | Appe al |
| | = 0, Little to None |
| | Stakeholder Appeal |



Budget Recommendations for Stakeholder Scored Projects

Projects excluded from initial recommendation are shown as strikethrough

| Proposed Projects | | aw Score (Avg.) | | Weighted Score | 1 | Sector Count | Sum of Scores | Appeal Score | Stakeholder Appeal |
|---|---|--------------------|---|-------------------|---|-----------------|---------------|-----------------|-----------------------|
| Storage as Transmission | | 3.4 | | 2.7 | | 2.0 | 8.1 | 7 | Medium |
| Demand Curve Translation Enhancement (SOM) | | 1.2 | 0 | 2.1 | | 1.0 | 4.3 | 3 | Low |
| Constraint Specific Transmission Shortage Pricing (SOM) | | 1.6 | 0 | 2.1 | | 0.0 | 3.7 | 3 | Low |
| 5-Minute Transaction Scheduling | | 2.6 | | 2.1 | | 1.0 | 5.7 | 7 | Medium |
| Capacity Demand Curve Adjustments | 0 | 1.3 | 0 | 1.9 | | 0.0 | 3.2 | 3 | Low |
| Advancing NYISO Transparency | | 2.9 | | 1.5 | | 0.0 | 4.4 | 7 | Medium |
| More Granular Operating Reserves (SOM) | 0 | 2.5 | 0 | 1.4 | | 0.0 | 3.9 | 3 | Low |
| Expanding Application of Peak Hour Forecasts | | 0.5 | 0 | 1.2 | | 1.0 | 2.7 | 0 | None |
| Reserving Capacity for TCC Balance-of-Period (BoP) | | 1.3 | | 1.2 | | 0.0 | 2.5 | 3 | Low |
| Eliminate Offline GT Pricing (SOM) | | 0.9 | | 1.2 | | 1.0 | 3.1 | 0 | None |

| | = 10, High Stakeholder |
|---|-------------------------|
| | Appeal |
| | = 7, Medium Stakeholder |
| _ | Appeal |
| | = 3, Low Stakeholder |
| | Appeal |
| | = 0, Little to None |
| _ | Stakeholder Appeal |



Budget Recommendations for Stakeholder Scored Projects

Projects excluded from initial recommendation are shown as strikethrough

| Proposed Projects | | Raw Score (Avg.) | ٧ | /eighted Score | ector ount | Sum of Scores | Appeal Score | Stakeholder Appeal |
|--|--|---------------------|---|-------------------|---------------|---------------|-----------------|-----------------------|
| Multi-Level References- | | 0.6 | | 0.9 | 0.0 | 1.5 | 0 | None |
| Adjustment of Energy Offer/Bid Floor (SOM) | | 0.7 | | 0.8 | 0.0 | 1.5 | 0 | None |
| Transmission Security in the ICAP Market | | 1.6 | | 0.7 | 0.0 | 2.2 | 3 | Low |
| 15-Minute Transactions Enhancement | | 1.0 | | 0.6 | 0.0 | 1.7 | 0 | None |
| Enhanced BSM Forecasts Assumptions (SOM) | | 0.7 | | 0.6 | 0.0 | 1.3 | 0 | None |
| Eliminate Fees for CTS Transactions with PJM (SOM) | | 0.7 | | 0.4 | 0.0 | 1.2 | 0 | None |
| Long Island Reserve Constraint Pricing (SOM) | | 0.8 | | 0.4 | 0.0 | 1.2 | 0 | None |
| Locational Marginal Pricing of Capacity (SOM) | | 1.1 | | 0.1 | 0.0 | 1.1 | 0 | None |
| Lines in Series Constraint Pricing | | 0.1 | | 0.0 | 0.0 | 0.1 | 0 | None |
| Monthly Demand Curves (SOM) | | 0.2 | | 0.0 | 0.0 | 0.2 | 0 | None |

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



Final Market Project Budget Recommendation

No changes from July 29th BPWG



Mandatory 2022 Market Projects

| Fetimata | d Cost (in | millione) |
|----------|------------|-----------|

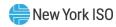
| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|--|--------------------|-----------------|------------------------------|---------------------|-------|---------|----------------|-------|
| 1 | Capacity Value Study | Capacity Market | Mandatory | Study Defined | | 0.18 | 0.00 | 0.45 | 0.63 |
| 2 | CRIS Tracking | Capacity Market | Mandatory | Development Complete | Software Design | 0.17 | 0.00 | 0.00 | 0.17 |
| 3 | DER Participation Model | New Resource | Mandatory | Deployment | Deployment | 5.47 | 0.10 | 4.87 | 10.44 |
| 4 | Support TSO and DSO Coordination Efforts | New Resource | Mandatory | Issue Discovery | Issue Discovery | 0.12 | 0.00 | 0.20 | 0.32 |



Continuing 2022 Market Projects

Estimated Cost (in millions)

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|---------------------------------|--------------------|-----------------|------------------------------|---------------------------|-------|---------|----------------|-------|
| 5 | Comprehensive Mitigation Review | Capacity Market | Continuing | Deployment | Market Design Complete | 0.19 | 0.00 | 0.40 | 0.59 |
| 6 | Grid in Transition | New Resource | Continuing | Study Complete | Issue Discovery | 0.19 | 0.00 | 0.40 | 0.59 |



| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|---|--------------------|-----------------|-----------------------------------|---------------------------|-------|---------|----------------|-------|
| 7 | 15-Minute Transactions Enhancement - Requested by HQUS | Energy Market | Prioritize | Market Design Complete | | 0.09 | 0.00 | 0.25 | 0.34 |
| 8 | 5 Minute Transaction Scheduling - Requested by HQUS | Energy Market | Prioritize | Market Design Concept Proposed | | 0.10 | 0.00 | 0.25 | 0.35 |
| 9 | Adjustment of Energy Offer/Bid Floor (SOM) | Energy Market | Prioritize | Market Design Complete | | 0.06 | 0.00 | 0.00 | 0.06 |
| 10 | Advancing NYISO Transparency - Requested by DC Energy | Energy Market | Prioritize | Deployment | | 0.13 | 0.00 | 0.25 | 0.38 |
| 11 | Capacity Demand Curve Adjustments | Capacity Market | Prioritize | Study Complete | | 0.13 | 0.00 | 0.35 | 0.48 |
| 12 | Constraint Specific Transmission Shortage Pricing (SOM) | Energy Market | Prioritize | Functional Requirements | Market Design Complete | 0.10 | 0.00 | 0.00 | 0.10 |
| 13 | Coordination of Interconnection and Transmission Expansion Study | Planning | Prioritize | Market Design Complete | | 0.06 | 0.00 | 0.00 | 0.06 |



Resource

Capacity

Market

| | | | | | | Estimated Cost (in millions) | | | |
|------|--|--|-----------------|-----------------------------------|-----------------------------------|------------------------------|---------|----------------|-------|
| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
| 14 | CRIS Expiration Evaluation | Capacity Market | Prioritize | Market Design Complete | Market Design Concept Proposed | 0.13 | 0.00 | 0.00 | 0.13 |
| 15 | Demand Curve Translation Enhancement (SOM) | Capacity Market | Prioritize | Market Design Complete | | 0.06 | 0.00 | 0.00 | 0.06 |
| 16 | Dynamic Reserves (SOM) | Energy Market | Prioritize | Market Design Concept Proposed | Study Complete | 0.12 | 0.00 | 0.40 | 0.52 |
| 17 | Eliminate Fees for CTS Transactions with PJM (SOM) | Energy Market | Prioritize | Market Design Concept Proposed | | 0.05 | 0.00 | 0.00 | 0.05 |
| 18 | Eliminate Offline GT Pricing (SOM) | Energy Market | Prioritize | Market Design Complete | | 0.11 | 0.00 | 0.00 | 0.11 |
| 19 | Engaging the Demand Side | New | Prioritize | Study Complete | Issue Discovery | 0.18 | 0.00 | 0.25 | 0.43 |



0.12

0.12

0.00

0.00

20

Enhanced BSM Forecasts Assumptions (SOM)

Prioritize

Market Design

Concept Proposed

Estimated Cost (in millions)

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|---|--|-------------------|-----------------------------------|-----------------------------------|-------|---------|----------------|-------|
| 21 | Expanding Application of Peak Hour Forecasts | Capacity Market | <u>Prioritize</u> | Market Design Complete | Market Design Concept Proposed | 0.08 | 0.00 | 0.00 | 0.08 |
| 22 | Grid Services from Renewable Generators - Requested by NYSERDA | Energy Market | Prioritize | Market Design Concept Proposed | Study Complete | 0.10 | 0.00 | 0.15 | 0.25 |
| 23 | Hybrid Aggregation Model | New Resource | Prioritize | Functional Requirements | Market Design Complete | 0.29 | 0.00 | 0.00 | 0.29 |
| 24 | Improve Duct-Firing Modeling (SOM) | Energy Market | Prioritize | Market Design Concept Proposed | | 0.09 | 0.00 | 0.15 | 0.24 |
| 25 | Improving Capacity Accreditation (SOM) | Capacity Market | Prioritize | Market Design Complete | | 0.32 | 0.00 | 0.40 | 0.72 |
| 26 | Internal Controllable Lines | New Resource | Prioritize | Market Design Concept Proposed | | 0.36 | 0.00 | 0.25 | 0.61 |
| 27 | Lines in Series Constraint Pricing | Energy Market | Prioritize | Study Complete | | 0.06 | 0.00 | 0.00 | 0.06 |



| Estimated | Cost (in | millions) |
|------------------|-----------|-----------|
| Latimateu | COSt (III | |

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|---|--------------------|-----------------|-----------------------------------|----------------------------|-------|---------|----------------|-------|
| 28 | Locational Marginal Pricing of Capacity (SOM) | Capacity Market | Prioritize | Market Design Concept Proposed | | 0.27 | 0.00 | 0.65 | 0.92 |
| 29 | Long Island Reserve Constraint Pricing (SOM) | Energy Market | Prioritize | Market Design Complete | | 0.09 | 0.00 | 0.00 | 0.09 |
| 30 | Monthly Demand Curves (SOM) | Capacity Market | Prioritize | Issue Discovery | | 0.11 | 0.00 | 0.00 | 0.11 |
| 31 | More Granular Operating Reserves (SOM) | Energy Market | Prioritize | Market Design Concept Proposed | | 0.11 | 0.00 | 0.00 | 0.11 |
| 32 | Multi-Level References | Energy Market | Prioritize | Functional Requirements | | 0.10 | 0.00 | 0.05 | 0.15 |
| 33 | Reserving Capacity for TCC Balance-of-Period (BOP) Auctions | TCC | Prioritize | Software Design | Functional Requirements | 0.25 | 0.00 | 0.00 | 0.25 |
| 34 | Storage as Transmission - Requested by NYSERDA | New Resource | Prioritize | Market Design Concept Proposed | | 0.29 | 0.00 | 0.55 | 0.84 |



| | | Estim | Estimated Cost (in millions) | | | | | | |
|------|---|--|------------------------------|-----------------------------------|-----------------------------------|-------|---------|----------------|-------|
| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
| 35 | Time Differentiated TCCs - Requested by Calpine and Vitol | TCC | Prioritize | Market Design Complete | Market Design Concept Proposed | 0.17 | 0.00 | 0.20 | 0.37 |
| 36 | Transmission Security in the ICAP Market | Capacity Market | Prioritize | Market Design Concept Proposed | | 0.25 | 0.00 | 0.13 | 0.38 |



Future 2022 Market Projects

| | | | | | | Estimated Cost (in million | | | lions) |
|------|--|--|-----------------|------------------------------|---------------------|----------------------------|---------|----------------|--------|
| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
| 37 | Capacity Transfer Rights for Internal Transmission Upgrades (SOM) | Capacity Market | Future | | | | | | |
| 38 | Carbon Pricing | Energy Market | Future | | Software Design | | | | |
| 39 | Enhanced PAR Modeling (SOM) | Energy Market | Future | | | | | | |
| 40 | Long Island PAR Optimization and Financial Rights (SOM) | Energy Market | Future | | | | | | |
| 41 | Review of Real-Time Market Structure (SOM) | Energy Market | Future | | | | | | |



Final Enterprise Project Budget Recommendation

No changes from July 29th BPWG



Continuing 2022 Entorprise Drainate

| Continuing 2022 Enterprise Projects |
|-------------------------------------|
|-------------------------------------|

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|----------------------------------|--------------------------|-----------------|---------------------------|---------------------|-------|---------|----------------|-------|
| 1 | ACC Control Room Renovations | Enterprise | Continuing | Deployment | | 0.49 | 5.66 | 0.00 | 6.15 |
| 2 | Application Platform Upgrade | Enterprise | Continuing | Deployment | Deployment | 0.48 | 0.00 | 0.00 | 0.48 |
| 3 | Database Upgrade | Enterprise | Continuing | Deployment | Deployment | 0.28 | 0.00 | 0.00 | 0.28 |
| 4 | EMS/BMS Operational Enhancements | Operations & Reliability | Continuing | Deployment | Deployment | 0.08 | 0.00 | 1.21 | 1.29 |
| 5 | IT Infrastructure Automation | Enterprise | Continuing | Deployment | Deployment | 0.20 | 0.10 | 0.12 | 0.41 |
| 6 | ITSM Security Enhancements | Enterprise | Continuing | Deployment | Deployment | 0.44 | 0.34 | 0.31 | 1.09 |
| 7 | Network Infrastructure Upgrade | Enterprise | Continuing | Deployment | Deployment | 0.19 | 1.56 | 0.00 | 1.75 |



Estimated Cost (in millions)

Continuing 2022 Enterprise Projects

| | | | | | | Estim | ated Cos | st (in mil | lions) |
|------|--------------------------------|--------------------------|-----------------|---------------------------|-------------------------|-------|----------|----------------|--------|
| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
| 8 | Outage Management System (OMS) | Operations & Reliability | Continuing | Deployment | Development Complete | 0.61 | 0.00 | 0.73 | 1.34 |
| 9 | UPS Replacement | Enterprise | Continuing | Study Complete | | 0.08 | 0.85 | 0.00 | 0.93 |
| 10 | Windows System Upgrade | Enterprise | Continuing | Deployment | Deployment | 0.23 | 1.66 | 0.15 | 2.04 |



| Estimated | Cost (| in millions | ١ |
|------------------|--------|-------------|---|
| Locilliacoa | 0000 | , | / |

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total | |
|------|--|-----------------------------|-----------------|----------------------------|---------------------|-------|---------|----------------|-------|--|
| 11 | ASIS Rule for Re-write - Validating Exports | Energy Market | Prioritize | Deployment | | 0.08 | 0.00 | 0.00 | 0.08 | |
| 12 | BMS Performance Certification | Enterprise | Prioritize | Study Complete | | 0.08 | 0.00 | 1.00 | 1.08 | |
| 13 | BTM Solar Demand Forecasting Product Enhancements | Planning | Prioritize | Functional Requirements | | 0.13 | 0.00 | 0.00 | 0.13 | |
| 14 | Business Entity and Credit Questionnaire Enhancements | Business & Finance | Prioritize | Deployment | | 0.18 | 0.00 | 0.00 | 0.18 | |
| 15 | CMS and ConInvoice Data Integration | Business & Finance | Prioritize | Functional Requirements | | 0.08 | 0.00 | 0.00 | 0.08 | |
| 16 | Content Management and Collaboration Solution | Enterprise | Prioritize | Deployment | | 0.14 | 0.03 | 0.00 | 0.16 | |
| 17 | Contingency Analysis Results for Transmission Owner Situational Awareness | Operations & Reliability | Prioritize | Functional Requirements | | 0.09 | 0.00 | 0.00 | 0.09 | |



Estimated Cost (in millions)

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|--|-----------------------------|-----------------|------------------------------|---------------------|-------|---------|----------------|-------|
| 18 | Control Room Logging Replacement | Operations & Reliability | Prioritize | Study Complete | | 0.14 | 0.21 | 0.00 | 0.35 |
| 19 | Credit Price Spread Updates Virtual and External Transactions | Business & Finance | Prioritize | Functional Requirements | | 0.07 | 0.09 | 0.00 | 0.16 |
| 20 | Demand Forecasting Operational Reporting Enhancements | Planning | Prioritize | Functional Requirements | | 0.09 | 0.00 | 0.00 | 0.09 |
| 21 | Finance Systems Technology Upgrades | Enterprise | Prioritize | Deployment | | 0.14 | 0.00 | 0.00 | 0.14 |
| 22 | ICAP Supplier Status Enhancements | Capacity Market | Prioritize | Functional Requirements | | 0.04 | 0.00 | 0.00 | 0.04 |
| 23 | IT Development and Control of Compliance Reports | Operations & Reliability | Prioritize | Deployment | | 0.08 | 0.00 | 0.00 | 0.08 |
| 24 | Krey Control Room A/V Replacement | Enterprise | Prioritize | Study Complete | | 0.03 | 0.00 | 0.05 | 0.08 |



Estimated Cost (in millions)

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|--|-----------------------------|-----------------|------------------------------|---------------------|-------|---------|----------------|-------|
| 25 | LFDR Upgrade and Enhancements | Planning | Prioritize | Functional Requirements | | 0.10 | 0.00 | 0.00 | 0.10 |
| 26 | Market Validation, Reporting and Penalty Enhancements | Capacity Market | Prioritize | Functional Requirements | | 0.08 | 0.00 | 0.00 | 0.08 |
| 27 | Meter Services System | Business & Finance | Prioritize | Functional Requirements | | 0.08 | 0.00 | 0.00 | 0.08 |
| 28 | Microsoft 365 | Enterprise | Prioritize | Deployment | | 0.47 | 0.28 | 0.55 | 1.30 |
| 29 | Minimum Oil Burn Enhancements | Business & Finance | Prioritize | Deployment | | 0.18 | 0.00 | 0.00 | 0.18 |
| 30 | Natural Gas Notices Enhancement Project | Operations & Reliability | Prioritize | Functional Requirements | | 0.06 | 0.00 | 0.14 | 0.20 |
| 31 | NetBackup Appliance Refresh | Enterprise | Prioritize | Deployment | | 0.10 | 1.39 | 0.25 | 1.73 |



| Estimated Cost (in r | millions) |
|----------------------|-----------|

| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
|------|--|-----------------------------|-----------------|------------------------------|---------------------|-------|---------|----------------|-------|
| 32 | Next Generation Test Environment Study | Enterprise | Prioritize | Study Complete | | 0.03 | 0.00 | 0.00 | 0.03 |
| 33 | NYISO Hosted Siemens Cloud | Planning | Prioritize | Deployment | | 0.06 | 0.18 | 0.00 | 0.24 |
| 34 | On-Boarding of New Resources | New Resource | Prioritize | Study Complete | | 0.15 | 0.00 | 0.00 | 0.15 |
| 35 | Outage States Portal/Dashboard | Capacity Market | Prioritize | Functional Requirements | | 0.08 | 0.00 | 0.00 | 0.08 |
| 36 | PI Tools Upgrade | Operations & Reliability | Prioritize | Deployment | | 0.16 | 0.00 | 0.11 | 0.27 |
| 37 | Price Validation Technology Upgrades | Enterprise | Prioritize | Software Design | | 0.15 | 0.00 | 0.15 | 0.30 |
| 38 | Privilege Access Management Upgrade and Enhancements | Enterprise | Prioritize | Deployment | | 0.15 | 0.00 | 0.05 | 0.20 |



| | | | | | | Estimated Cost (in millions | | | |
|------|--|-----------------------|-------------------|------------------------------|---------------------|-----------------------------|---------|----------------|-------|
| Item | Project | Product Area | Project Type | 2022 Proposed Deliverable | 2021 Deliverable | Labor | Capital | Prof. Serv. | Total |
| 39 | Salesforce CRM Optimization | Business & Finance | Prioritize | Deployment | | 0.19 | 0.08 | 0.23 | 0.49 |
| 40 | SDDB Steady State Dynamics Database MP Portal | Planning | <u>Prioritize</u> | Deployment | | 0.24 | 0.00 | 0.04 | 0.28 |
| 41 | System Demand End Use and Electrification Forecasting Enhancements | Planning | Prioritize | Study Complete | | 0.04 | 0.00 | 0.10 | 0.13 |
| 42 | Transactions Modifications and Confirmation Tool | Business & Finance | Prioritize | Deployment | | 0.16 | 0.00 | 0.00 | 0.16 |
| 43 | Unified Communications Platform | Enterprise | Prioritize | Deployment | | 0.07 | 0.35 | 0.00 | 0.41 |
| 44 | Web Content Management System Upgrade | Enterprise | Prioritize | Deployment | | 0.10 | 0.00 | 0.13 | 0.23 |

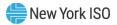


Next Steps



Next Steps

- Written feedback on the 2022 Project Budget Prioritization Process may be sent to:
 - Send to Brian Hurysz at bhurysz@nyiso.com : (518) 461-6405
- At the September 9th BPWG, the NYISO will present the initial NYISO budget
- On September 29th the BPWG Chair will present the NYISO budget proposal at the Management Committee meeting



Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit 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 policymakers, stakeholders and investors in the power system





Questions?

