

NYISO 2016 BUDGET OVERVIEW

(dollars in millions, unless otherwise noted)

Draft – For Discussion Only



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NYISO 2016 BUDGET: HIGHLIGHTS & SUMMARY INFORMATION

Timeline for Budget Cycle

- **September 9:** NYISO to present draft 2016 Budget presentation to BPWG
- **September 14:** BOD meeting to review high level budget summary
- **September 18:** BPWG meeting
- **September 30:** BPWG to present 2016 Budget to Management Committee
- **October 16:** BPWG meeting
- **October 19:** BOD meeting to review 2016 Budget
- **October 28:** Management Committee vote on 2016 Budget
- **November 17:** BOD approval of final 2016 Budget

Key Priorities and Projects for 2016

- **Security Program Enhancements focus on reducing NYISO's security risk while supporting compliance initiatives and requirements:**
 - ✓ *Compliance with NERC Critical Infrastructure Protection Program*
 - ✓ *Compliance with Federal Energy Regulatory Commission Standards*
 - ❖ *Critical Infrastructure Protection (CIP) Controls*
 - ✓ *NERC CIP Version 5 Planning and Conversion – Phase II*
 - ❖ *Identity and Access Management Phase V – Security Systems Integration*
 - ❖ *Physical and Cyber Security Enhancements*
 - ✓ *Off-Site Receiving and Delivery Facility*
 - ✓ *Physical Security Guard Force*
 - ✓ *Cyber Risk Information Sharing Program (CRISP)*
 - ✓ *Physical Access Control System (PACS) Support*
 - ✓ *Tools to Enhance Security Monitoring and Analytics*
 - ✓ *Cyber Security Controls, Monitoring and Support*
 - ✓ *Security Awareness Program*

Key Priorities and Projects for 2016 (continued)

➤ **System and Resource Planning focus on Reliability and Public Policy Planning Requirements:**

- ✓ *Continued support of PSC-requested studies including
 - ❖ *Public Policy Requirements under FERC Order 1000 related to AC Transmission proceeding and Western New York studies*
 - ❖ *Continuation of State Resource Planning Analysis*
 - ❖ *Clean Power Plan Implementation*
 - ❖ *Integration of the Distribution Platform**
- ✓ *Develop solar photo-voltaic forecasting models for Planning and Operations*
- ✓ *Support enhanced role for interregional planning activities*
- ✓ *Support studies to meet NERC TPL standards and coordination of the newly expanded Bulk Electric System (BES) study work*
- ✓ *Support the newly NERC and FERC-approved Modeling (MOD) and Geomagnetic Disturbance (GMD) Standards; and recent NERC System Facilities (FAC), critical assets (CIP-014) and under-frequency load shedding (PRC-006) standards*

Key Priorities and Projects for 2016 (continued)

➤ **Reliability through Evolving Markets & Integration of Distributed Energy Resources:**

- ✓ *Demand Curve Reset*
- ✓ *Behind-the-Meter Net Generation*
- ✓ *Reliability Must Run Cost Recovery*
- ✓ *ICAP AMS Enhancements Phase 3*
- ✓ *Reactive Test Data Management System*
- ✓ *Alternative Methods for Calculating the Locational Capacity Requirements*
- ✓ *Wholesale Market Alignment with the PSC REV Proceeding*
- ✓ *Fuel Assurance - Constrained Fuel Supply Bidding*

Key Priorities and Projects for 2016 (continued)

➤ **Technology and Infrastructure Investment:**

- ✓ *Data Storage Infrastructure Redesign Phase II*
- ✓ *Telephony System Upgrade*
- ✓ *Enterprise Monitoring Phase III*
- ✓ *Database Upgrades and Performance Enhancements*
- ✓ *Application Platform Upgrade Phase III*
- ✓ *NAESB Public Key Infrastructure*

➤ **Upgrade of the Market Management System to efficiently support future business requirements (EMS/BMS Replacement):**

- ✓ *Second phase of a multi-year project to upgrade both the Energy Management System (EMS) and the Business Management System (BMS), collectively, the Market Management System (MMS)*
- ✓ *The EMS encompasses the core reliability functions used by the system operators such as load flow and contingency analysis. The BMS/MMS encompasses the day ahead and real time energy market functionality*
- ✓ *The second phase will entail identifying the must-have requirements for Operations/Reliability and Markets, development of contracts and a Statement of Work with the selected vendor, initial project implementation plans, and initial development and hardware requirements*

Budget Highlights

- ♦ **NYISO's draft 2016 budget totals \$148.1M, allocated across a forecast of 159.5 million MWhs, for a Rate Schedule 1 charge/MWh of \$0.928. Comparatively, the 2015 budget was \$148.4M, allocated across 165.8 million MWhs for a Rate Schedule 1 charge/MWh of \$0.895**
 - *For comparative purposes, the 2015 budget has been adjusted to eliminate FERC fees of \$12.5M*
 - *NYISO has filed tariff revisions with FERC requesting an effective date of January 1, 2016, providing for separate recovery of FERC fees outside of NYISO's annual budget charge*
- ♦ **NYISO's draft 2016 budget represents a 0.2% decrease in revenue requirement from the 2015 budget and a 3.8% decrease in projected MWhs, for an overall Rate Schedule 1 increase of 3.6%**
- ♦ **NYISO's draft 2016 budget represents the third consecutive year of a flat revenue requirement (excluding FERC fees): *2014 - \$148.0M, 2015 - \$148.4M, 2016 - \$148.1M***
- ♦ **NYISO continues to maintain the lowest number of Full-Time Equivalents (FTEs) of all ISOs/RTOs**

Refer to Peer Comparison on next slide

Budget Highlights - Peer Comparison

(\$ in millions)					
	<u>REVENUE REQUIREMENT *</u>			<u>OTHER INFORMATION *</u>	
ISO/ RTO	2016 Revenue Req. (in \$\$)	Estimated 2016 MWh Throughput (in millions of MWh)	2016 Revenue Req. (in \$/MWh)	Debt Outstanding at 12/31/16	Authorized FTEs at 12/31/16
CAISO	Not yet available				
MISO	\$280.8M	775.0	\$0.362/MWH	\$185.5M	910
PJM	\$280.0M	850.0	\$0.330/MWH	\$22.0M	685
ERCOT	\$219.9M	349.4	\$0.629/MWH	\$63.0M	749
ISO-NE	\$185.3M	139.6	\$1.330/MWH	\$113.5M	586
NYISO	\$148.1M	159.5	\$0.928/MWH	\$102.9M	574
<i>*All amounts are draft, and may be subject to change as each ISO/RTO completes its 2016 approval process.</i>					

Budget Highlights - 2016 Overview

<i>(in millions, excluding RS#1/MWh charges)</i>	2016 <u>Draft</u>	2015 <u>Budget*</u>	2016 vs. <u>2015*</u>
RS#1 Revenue Requirement – in \$\$	\$148.1	\$148.4	(\$0.3)
Budgeted MWh Hours	<u>159.5</u>	<u>165.8</u>	<u>(6.3)</u>
RS#1 Revenue Requirement - \$/MWh	\$0.928	\$0.895	\$0.033
<u>RS1 Charge/MWh – Gross (before rebates from non-physical transactions):</u>			
RS#1 Charge/MWh: Purchasers @ 72%	\$0.668	\$0.644	\$0.024
RS#1 Charge/MWh: Sellers @ 28%	\$0.260	\$0.251	\$0.009
<u>RS1 Charge/MWh – Net (after estimated rebates from non-physical transactions):</u>			
RS#1 Charge/MWh: Purchasers @ ~68%	\$0.631	\$0.609	\$0.022
RS#1 Charge/MWh: Sellers @ ~27%	\$0.251	\$0.242	\$0.009
RS#1 Charge/MWh: Non-physical transactions @ ~5%	\$0.046	\$0.044	\$0.002
<i>*Adjusted to exclude \$12.5M in FERC Fees</i>			

Budget Highlights

MWh Throughput:

- Budgeted MWh volumes for 2016 reflect a 3.8% decrease from the 2015 budget, primarily due to the elimination of Rate Schedule 1 charges on Export Transactions with ISO-NE due to Coordinated Transaction Scheduling. See additional details on 2016 Energy Forecast in a presentation posted for the 9/9/15 BPWG meeting

Spending Level Increases:

- *Additional headcount:*
Required in Planning, Information Technology, Operations, and Market Mitigation & Analysis to support expanding and new roles/responsibilities as required by regulatory agencies, cyber security program enhancements and compliance obligations, and new and expanding market applications
- *Additional Information Technology Capital Requirements:*
Primarily required for replacement of NYISO's Energy Management System (EMS) and Business Management System (BMS) and to evolve NYISO's physical and cyber security program
- *Hardware and Software Maintenance:*
Primarily attributed to increasing inventory of software licenses and new IT infrastructure, which support key corporate initiatives including NERC CIP compliance and Broader Regional Markets; coupled with the continued impact of expiring warranties

Budget Highlights

In the 2016 budget, NYISO continues to mitigate the impact of required spending level increases by proposing additional cost reductions and containment/avoidance measures as follows:

➤ **Budget Reductions – Details provided on following slides:**

Continued reductions from prior years:

- **Telecommunications**
- **External Legal Costs**
- **Professional Fees (Consultants)**

Additional reductions:

- **Building Services**

➤ **Cost Containment/Avoidance Measures – Details provided on following slides:**

- **Debt Proceeds**
- **Debt Service Cost**
- **Interest on Debt**
- **Pension Plan Funding**

Budget Highlights

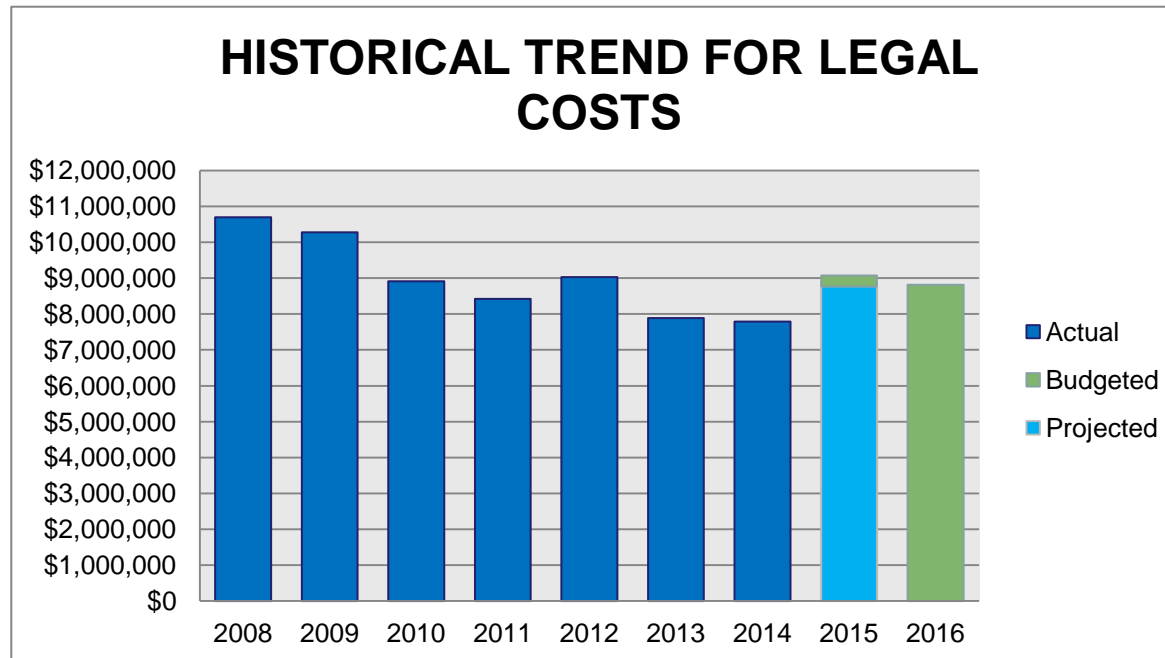
Budget Reductions (Telecommunications):

- NYISO continues to optimize its budget for Telecommunications services with a **decrease of \$0.8M** from 2015 to 2016, which follows a reduction of \$0.3M from 2014 to 2015
- During 2015, NYISO engaged in a Telecommunication Technology Roadmap Project whose objective was to assess all components of NYISO's Telecommunications Wide Area Network. As a result of this project, NYISO will recognize the following benefits in addition to significant cost reductions:
 - Increased Bandwidth and Resiliency Across the Network
 - New Technologies that Replace Sun-setting Technologies and Position NYISO for the Long Term (Support Growth)
 - Less Telecommunication Vendors to Manage (from 5 to 2) while Maintaining Necessary Diversity
 - Improved Contract Terms

Budget Highlights

Budget Reductions (External Legal):

- Over the past several years, NYISO has implemented measures and developed internal staff to enable reduced reliance on outside counsel as much as possible. As a result, actual costs for external legal counsel, as well as total legal cost, have been reduced significantly from historical levels. (see chart below). While the use of outside counsel may vary due to increases in litigation and legal support required for new initiatives, NYISO is proposing to reduce the 2016 budget for external legal by \$0.5M from the 2015 budget. This follows a reduction of \$0.1M from 2014 to 2015.



Budget Highlights

Budget Reductions (Professional Fees):

- NYISO continues to reduce its budget for Professional Fees with **a decrease of \$0.4M** from 2015 to 2016, which follows a reduction of \$1.6M from 2014 to 2015
 - Across the board cost reductions in anticipation of favorable contract negotiations and continued resource optimization efforts
 - Consulting support required to complete the 2016 project initiatives

Budget Reductions (Building Services):

- NYISO's budget for Building Services has **a decrease of \$0.1M** from 2015 to 2016 primarily due to a reduction in the estimated cost of utilities

Budget Highlights

Cost Containment/Avoidance (Debt Proceeds):

- In order to mitigate the annual cost impact of the EMS/BMS replacement, additional debt funding of \$7.0M is being proposed as part of the 2016 budget. The assumptions implicit in the 2016 budget and the 2017 and 2018 projections are as follows:
 - 2016: Interest only payments
 - 2017: Start of Principal and Interest payments
 - 2017-2021: Following each drawdown year 2016-2018, there will be a three-year payback period extending through the year 2021

Cost Containment/Avoidance (Debt Service Costs):

- NYISO's Debt Service budget has **remained flat** from 2015 to 2016
- In 2015, after consultation with Market Participants, NYISO utilized the 2014 budget under-spend and Rate Schedule 1 over-collection, totaling \$5.2M, to make additional principal payments on outstanding debt in order to reduce 2016 debt service costs (principal and interest). The impact of these early principal repayments on the 2016 proposed Rate Schedule 1 is a **decrease of ~ \$.03**

Budget Highlights

Cost Containment/Avoidance (Debt Service Costs continued)

- Over the past several years, NYISO has taken proactive steps to reduce Debt Service costs that continue to have a positive impact on RS1 in 2016 and future budget years as follows:
 - NYISO negotiated a more favorable interest rate spread on the 2011-2013 budget facility, which will be fully repaid in 2016, of 100 basis points, 75 basis points lower than originally negotiated in 2010
 - In 2012, the NYPSC authorized NYISO's refinancing of the Infrastructure Master Plan project debt, which will save Market Participants millions of dollars over the life of the debt
 - ✓ Interest Spread: The refinancing included a variable rate of LIBOR plus 225 basis points, 100 basis points lower than the original financing. This reduction in interest rate spread alone will save approximately \$4.5M over the loan term
 - ✓ Hedged Interest Risk: In July 2012, NYISO entered into an interest rate swap at ~1.9%, to lock the all-in interest cost at ~4.15% for the remaining 19-year life of the loan. The pricing on the interest rate swap was locked in during historical low levels for long-term financing. Assuming interest rates return to historical average levels over the next 19 years, this interest rate swap will also avoid approximately \$4.0M in additional interest costs over the loan term

Budget Highlights

Cost Containment/Avoidance (Debt Service Costs continued)

- Effective January 1, 2014, NYISO negotiated a new 4 year (2014 – 2017) budget facility loan to fund the cost of implementing Projects, technology enhancements and facility improvements
 - ✓ Interest Spread: This budget facility includes a variable rate of LIBOR plus 95 basis points, 80 basis points lower than the prior 3 year budget facility. **The more favorable interest rate spread has been locked in for an additional year** by extending the budget facility from a 3 year to a 4 year term
 - ✓ Hedged Interest Risk: In order to fix the interest rate on a portion of the budget facility loans, NYISO entered into interest rate swaps averaging ~1.9%, to lock the all-in interest cost at an average of ~2.9% over the life of the budget facility loans. The pricing on the interest rate swaps was locked in during a period of historically low rates and **mitigates the risk to NYISO's budget of future interest rate increases**

Budget Highlights

Cost Containment/Avoidance (Pension Plan):

- Due to the projected 2016 impact of interest rates, actuarial assumptions, level of benefit payments, and funded status; NYISO is able to continue to **maintain a reduced level** of budgeted pension funding, avoiding additional employee benefit cost increases
- These factors are evaluated each year to determine budgeted funding requirements; therefore, it is not assumed that this reduction will be carried forward to future years

Summary of Revenue Requirement Changes

2016 Rate Schedule 1 Revenue Requirement	\$148.1
2015 Rate Schedule 1 Revenue Requirement	<u>\$148.4</u>
Decrease in Rate Schedule 1 Revenue Requirement	(\$0.3)
♦ <u>Spending Reductions/Avoidance/Containment</u>	
Debt Proceeds	(7.0)
Reduction in Telecommunications	(0.8)
Reduction in External Legal Fees	(0.5)
Reduction in Professional Fees	(0.4)
Reduction in Building Services	(0.1)
Debt Service Cost	-
Interest on Debt	-
Pension Plan Funding	<u>-</u>
	(\$8.8)
♦ <u>Budget Increases</u>	
Increase in Salaries and Benefits	3.8
Increase in Capital	3.0
Increase in Computer Services	0.7
Decrease in Misc. Revenue (<i>Grant Revenue</i>)	0.7
Increase in Insurance	0.2
Increase in Meetings/Travel	<u>0.1</u>
	\$8.5

2016 Budget Overview

	<u>2016 Draft Budget</u>		
<i>(\$ in millions, except RS#1/MWH)</i>	<u>Enterprise</u>	<u>Projects</u>	<u>Total</u>
Capital	\$3.9	\$7.6	\$11.5
Salaries & Benefits	73.8	13.8	87.6
Professional Fees (including Legal)	17.6	6.5	24.1
Building Services	6.2	-	6.2
Computer Services	15.1	0.4	15.5
Insurance	3.1	-	3.1
Telecommunications	3.0	-	3.0
Other Expenses (BOD, Travel/Training, NPCC Fees)	<u>3.9</u>	<u>-</u>	<u>3.9</u>
Subtotal: Current Year Needs (excl. FERC Fees)	\$126.6	\$28.3	\$154.9
Debt Service	<u>27.3</u>	<u>-</u>	<u>27.3</u>
Subtotal: Cash Budget	\$153.9	\$28.3	\$182.2
Less: Miscellaneous Revenues	(2.4)	-	(2.4)
Less: Proceeds from Current Year Budget Debt	(4.0)	(28.0)	(32.0)
Add: Interest on Current Year Budget Debt	-	<u>0.3</u>	<u>0.3</u>
Total: Rate Schedule #1 Revenue Requirement in \$\$	\$147.5	\$0.6	\$148.1
Budgeted MWH Hours (<i>in millions</i>)			159.5
Rate Schedule #1 Revenue Requirement in \$/MWH (<i>budget</i>)			\$0.928

Appendix A

SALARIES & BENEFITS – 2016 FTE Additions

<u>Department</u>	<u>New for 2016</u>	<u>Key Contributions from Requested Positions</u>
System & Resource Planning	3	<p>1 position will support PSC/DPS requested efforts – Public Policy Requirements under FERC Order 1000 related to AC Transmission and Western New York studies, continuation of State Resource Planning Analysis, Clean Power Plan Implementation, and Integration of the Distribution Platform.</p> <p>1 position will support the annual performance of the Installed Reserve Margin (IRM) for the New York State Reliability Council (NYSRC), the NYISO Tariff required calculation of the Locational Capacity Requirements (LCRs), Import Rights determinations, Market Design and other Resource Adequacy tasks.</p> <p>1 position will support the newly NERC and FERC approved Modeling (MOD) and Geomagnetic Disturbance (GMD) Standards; and recent NERC System Facilities (FAC), critical assets (CIP-014) and under-frequency load shedding (PRC-006) standards. Numerous processes and evidence of compliance documentation are needed as well.</p>
Information Technology	2	<p>1 position will be responsible for NYISO's corporate patching program in compliance with NERC CIP Version 5 requirements.</p> <p>1 position will support the management of NYISO's technical security platforms as well as the NERC CIP program and CIP 5 readiness.</p>
Operations	2	<p>1 position will support new market applications and features including the EMS/BMS replacement project, new video board, Market to Market with PJM, Coordinated Transaction Scheduling with PJM, Fuel Adequacy Awareness and Coordinated Transaction Scheduling with NE.</p> <p>1 position will be required to lead the EMS/BMS Replacement project from the Grid Operations perspective for the duration of this project, which is anticipated to be completed in 2019.</p>
Market Mitigation & Analysis	1	<p>This position will support the increased workload associated with facilitating and administering the Reliability Must Run (RMR) process as required by FERC.</p>
Totals	8	

2017-2018 BUDGET PROJECTIONS

Draft – For Discussion Only

Rate Schedule 1 Summary

	BUDGET DRAFTS		
<i>(\$ in millions, except RS#1/MWH)</i>	2016 Draft	2017 Projection	2018 Projection
Total: Rate Schedule #1 Revenue Requirement in \$\$	\$148.1	\$157.0	\$165.1
Budgeted MWH Hours <i>(in millions)</i>	159.5	158.6	157.9
Rate Schedule #1 Revenue Requirement in \$/MWH	\$0.928	\$0.990	\$1.045

The 2017-2018 budget drafts presented above are advisory only. Actual budgets for these years will be developed and discussed with Market Participants annually.

2017 Budget Summary

In Summary:

- NYISO's draft 2017 advisory budget totals \$157.0, allocated across a forecast of 158.6 million MWhs, for a Rate Schedule 1 charge/MWh of \$0.990. Comparatively, the 2016 draft budget totals \$148.1M, allocated across a forecast of 159.5 million MWhs, for a Rate Schedule 1 charge/MWh of \$0.928.

Primary Drivers:

- The primary reasons for an \$8.9M increase in the Rate Schedule 1 revenue requirement from 2016 to 2017 are as follows:
 - \$8.5M increase in debt service. In 2016 debt service was reduced by \$5.2 million as NYISO utilized the 2014 budget under-spend and Rate Schedule 1 over-collection to make additional principal payments in 2015 on outstanding debt. Debt principal and interest payments of \$2.9M will begin in 2017 to repay amounts borrowed in 2016 to fund the EMS/BMS Replacement project
 - \$3.5M increase in Salaries & Benefits driven primarily by 3.0% annual merit compensation, 7.5% increase in health insurance costs, \$0.5M in pension funding, and 2 additional headcount positions
 - \$0.8M increase in computer services due to continued expansion of software and hardware maintenance costs associated with the implementation of new systems and software licenses related to the EMS/BMS Replacement project
 - \$0.6M increase in Professional Fees related to the EMS/BMS Replacement project
 - Costs related to the EMS/BMS Replacement project are being offset with \$4.5M in additional debt proceeds

2018 Budget Summary

In Summary:

- NYISO's draft 2018 advisory budget totals \$165.1M, allocated across a forecast of 157.9 million MWhs, for a Rate Schedule 1 charge/MWh of \$1.045. Comparatively, the draft 2017 advisory budget totals \$157.0M, allocated across a forecast of 158.6 million MWhs, for a Rate Schedule 1 charge/MWh of \$0.990.

Primary Drivers:

- The primary reasons for an \$8.1M increase in the Rate Schedule 1 revenue requirement from 2017 to 2018 are as follows:
 - \$4.2M increase in debt service primarily to repay amounts borrowed in 2016 and 2017 to fund the EMS/BMS Replacement project
 - \$3.3M increase in Salaries & Benefits driven primarily by 3.0% annual merit compensation, a 7.5% increase in health insurance costs, and 1 additional headcount position

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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