2016 Annual Report

The Changing Energy Landscape

A Report by the
New York Independent
System Operator

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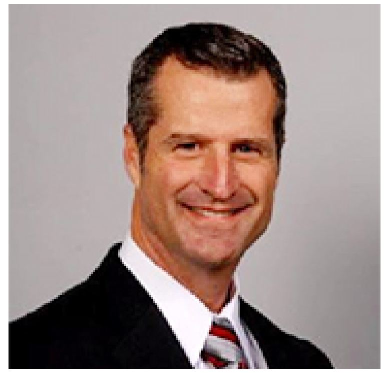
Message from Board Chair and CEO

NYISO Chairman of the Board,
Michael Bemis



NYISO President & CEO,
Bradley Jones

In this technological age, the manner in which people think about and use electricity is changing as quickly as the ways in which it is generated and delivered. A look across the energy industry today reveals that we are experiencing a period of exciting and unprecedented innovation. The New York Independent System Operator (NYISO) is at the heart of these changes as competitive markets continue to promote reliability, meet consumer needs, and drive increased efficiencies that benefit our environment.

As a result, our business has become more impactful than ever before. Throughout 2016, the NYISO built upon a proven track record of addressing emerging public policy goals, changing patterns of demand, and an influx of renewable energy—all while maintaining an uncompromising focus on providing for grid reliability.

Specifically, New York State's Reforming the Energy Vision (REV) and Clean Energy Standard (CES) initiatives played an important role in shaping our work to prepare for the electric grid of the future. The integration of distributed energy resources (DER) and meeting renewable energy goals in the context of our competitive markets were specific areas of focus.

Consistent with the REV initiative, we developed new market rules to enable certain behind-the-meter generation resources to participate in New York's wholesale electricity markets. We also initiated discussions with our stakeholders on the important work of integrating DER into our markets. This process included a day-long workshop that brought together more than 200 market participants, policy makers, interested stakeholders, and industry experts to help design a roadmap for the future.

In 2016, the NYISO began a project through its stakeholder process to examine the potential for using carbon pricing within the wholesale energy markets to further New York's energy goals. The Brattle Group was retained by the NYISO to evaluate conceptual market design options for integrating the social cost of carbon into competitive wholesale energy markets administered by the NYISO. The report was released in

August 2017, and is intended to explore how carbon pricing can align wholesale markets with state energy policies. The report looks at several factors, including the effect on customer costs and emissions reductions.

In recognition that a carbon pricing proposal can only be achieved in conjunction with state policymakers, the NYISO is working in partnership with the New York State Department of Public Service (DPS). Our collaboration reflects the shared commitment to a unified work effort that explores the potential for developing an approach to value carbon in the wholesale energy market as an instrument of state policy.

While New York State reached a record 1,571 MW of wind generation in January of 2016, the ambitious renewable energy targets established by the CES will drive the need to reliably integrate more wind and solar. The NYISO's innovative market design and wind forecasting tools made New York a leader in wind energy integration. The next step was to apply that success to solar and in 2016 the NYISO initiated an impact study that established the groundwork for reliably managing the projected growth in solar resources.

As we chart the course toward the future grid, we recognize that our Energy Management System/Business Management System (EMS/BMS) is the platform that will propel us toward that future most efficiently and effectively. In 2016, we launched a multi-year effort to develop and deploy a new EMS/BMS system that will strengthen our capabilities and allow for more sophisticated tools for regional coordination and the reliable integration of renewable and distributed resources.

Sustained system reliability and adherence to stringent physical and cyber-security requirements are at the core of our mission and serve as hallmarks of excellence in the NYISO's operations. In 2016, we successfully completed an independent audit of mandatory North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) technical security standards. This achievement placed the NYISO among the first organizations in the country to adopt and complete a successful audit of compliance with the new standards.

In this annual report you will find more details and additional discussion of other important items the NYISO was engaged in throughout 2016. We are proud of our achievements and take a pause to reflect on how far we have come. However, more work is ahead and we believe that competitive markets will continue to be a catalyst for important progress and meaningful change.

Working together with market participants, stakeholders, regulators, and policy makers, we are committed not just to improving New York's electricity markets, but to making them the best in the nation.

Reliability New Yorkers Can Count On

The New York Independent System Operator (NYISO) delivers electricity across New York in exactly the right amount—at exactly the right time. The NYISO conducts and monitors auctions of wholesale electricity every five minutes, every day of the year, to provide the lowest-cost power available and to encourage competition that drives innovation and efficiency to meet consumers' needs.

The NYISO performs comprehensive planning studies for New York's energy future, and provides independent, authoritative information to public policy makers and private investors with the common goal of meeting future electricity needs while sustaining the reliable supply of electricity for years to come.

2016 by the numbers

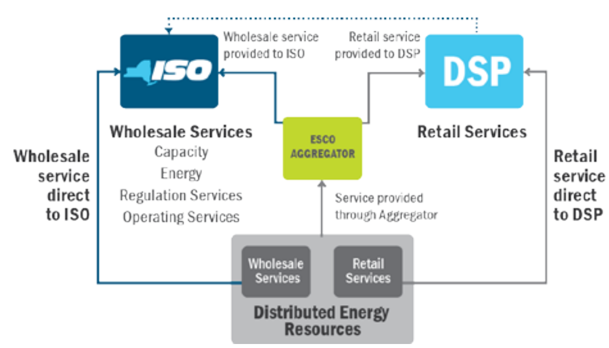
- **160,798 GWh** Total energy usage
- **32,075 MW** Peak demand
- **422** Total Market Participants

Highlights & Accomplishments

The NYISO has a proven track record of advancing change to keep pace with technology, demand, fuel supply economics, and public policy. These efforts included several strategic initiatives in 2016 aimed at building a cleaner, more sustainable grid and ensuring system reliability.

DER Roadmap

Continuing its work at the forefront of market design and commitment to making the electric grid smarter, cleaner, and more efficient, the NYISO issued its *Distributed Energy Resource Roadmap for New York's Wholesale Electricity Markets*.

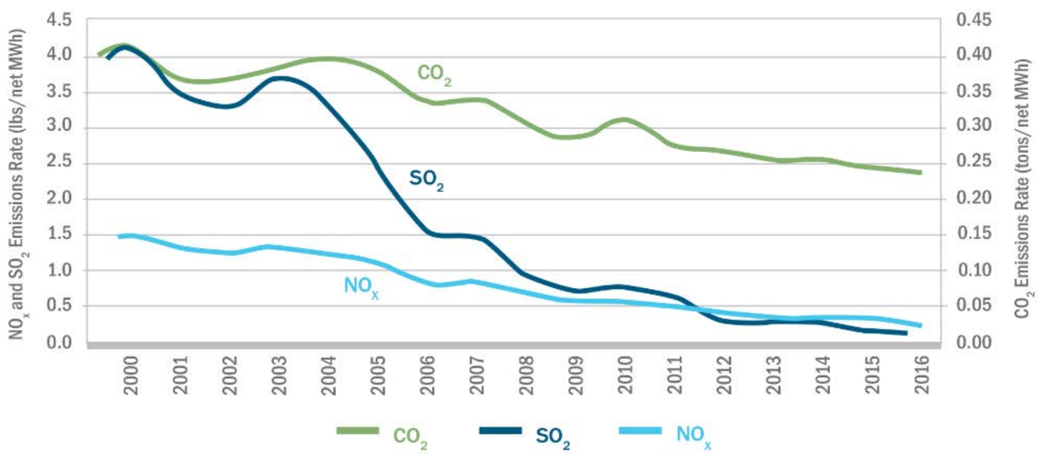


The objectives described in the *Roadmap*, though focused on wholesale markets, largely parallel the objectives of the New York State Public Service Commission's (PSC) Reforming the Energy Vision (REV) initiative in order to complement the retail market enhancements undertaken by the PSC and utilities. Using the *Roadmap*, the NYISO's goal is to develop a series of market enhancements to more fully integrate and optimize DER.

The *Roadmap* notes that DER integration will require examination of performance obligations, metering and telemetry requirements, measurement and verification of baselines and performance, market modeling, and an understanding of how to balance the simultaneous participation of DER in retail/distribution-level programs as well as the wholesale market.

To further inform the *Roadmap* initiative, the NYISO solicited stakeholder feedback and brought together a diverse group of interested parties, including market participants, policymakers, stakeholders, and industry experts for a day-long workshop.

Distributed energy is a natural extension of the NYISO's mission. The NYISO recognizes the need to develop a fully integrated grid that balances the traditional, centralized power system with emerging distributed energy resources. The goal of the *Roadmap* initiative is to present a vision for economically integrating DER into the NYISO's wholesale markets, creating potential for increased efficiencies by enabling consumers to make decisions about energy use that are informed by wholesale market signals and real-time conditions on the grid.



Clean Energy Standard

To convert the State Energy Plan goals into mandated requirements, the PSC issued an order on August 1, 2016 adopting the Clean Energy Standard (CES). The Commission order charted a course for the state toward a future where 50 percent of all energy consumed in New York will come from large-scale renewable resources by 2030.

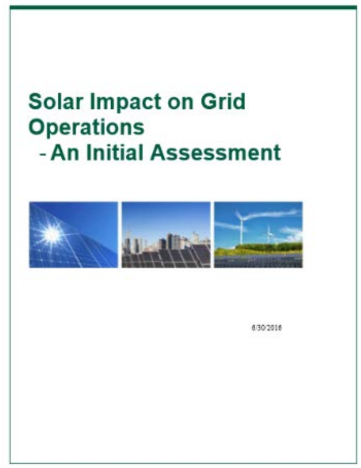
The CES will play a significant role in shaping New York's bulk power system over the next 15 years. Specifically, the order codifies the state's commitment to promoting increases in renewable generation to achieve 50-by-30; supporting construction and continued operation of renewable generation in New York; protecting upstate nuclear facilities from premature closure, and promoting of the market objectives of REV.

Through competitive markets and state energy policy, New York has established itself as a national leader with respect to clean energy production and reduced carbon emission. Since its inception in 1999, the NYISO has worked with the state to meet is unified goals of cleaner energy production and increased efficiency of the grid overall.

Together, the NYISO, the PSC, and Department of Public Service staff are diligently planning for the system transformation necessary to facilitate the growth of clean energy resources in New York. By leveraging competitive markets, the NYISO believes the state can pursue its goals in an economically efficient manner, while maintaining the reliability New Yorkers have come to expect.

Preparing for Solar Growth

With the release of its report, *Solar Impact on Grid Operations: An Initial Assessment*, the NYISO began laying the groundwork for reliably managing projected growth in solar resources. The report examined the potential for growth in solar power, the impact of increasing intermittent resources on grid operations, and forecasting issues that must be addressed to make effective use of solar resources in the future.


Solar Impact on Grid Operations
- An Initial Assessment

6/30/2016

The study found that the New York electric system can reliably manage the increased variability in five-minute loads associated with the solar PV and wind penetration levels studied—up to 4,500 MW of wind and 9,000 MW of solar photovoltaics (PV).

Going forward, large-scale deployment of behind-the-meter solar PV will impact the NYISO's load profile and system operations. Although these impacts may be mitigated in the future by on-site storage technology, the study recommended the incorporation of real-time and day-ahead solar forecasts into its control room operations and markets as soon as practicable.

Similar to its innovative work in the area of wind forecasting, the NYISO began evaluating potential solar forecasting systems in 2016.

Wind Power Record

Electricity generated by wind power in New York reached a new peak in January 2016. The new record of 1,571 MW over a one-hour period edged out the previous record of 1,524 MW set in March of 2015. As wind production reached 1,571 MW, it provided 9 percent of all energy generation in the state for that period. The record output represented 90 percent of the 1,746 MW of installed wind capacity in New York State in 2016.

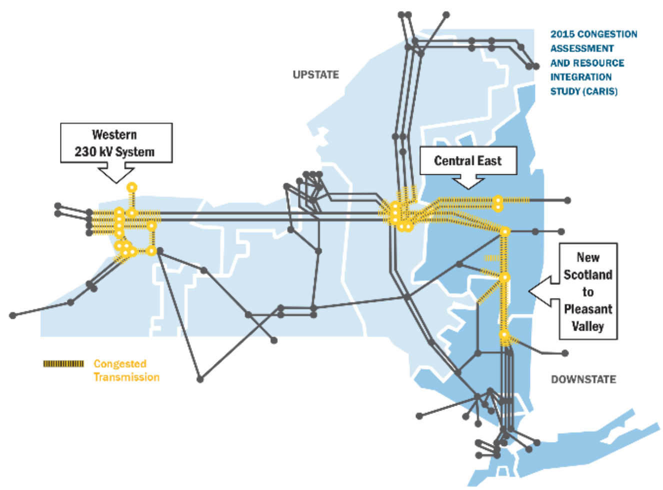
The Future of Energy Storage

One of the fundamental challenges of grid operations is constantly maintaining a balance between electric supply and demand. Energy storage plays a key role in balancing supply and demand, and clearly will be an integral part of the grid of the future. Since the announcement of the New York PSC's Reforming the Energy Vision initiative, there has been a growing interest in wholesale market participation of energy storage resources.

The NYISO was the first grid operator in the nation to establish federally approved market rules for Limited Energy Storage Resources in 2009 and to deploy the associated software and control systems. In 2016, the NYISO began examining the future of energy storage and soliciting feedback from market participants and stakeholders to help it develop a long term plan for integrating storage resources into the market. The NYISO Energy Storage Market Integration and Optimization initiative will examine the options currently available for storage to participate in New York's wholesale electricity markets and solicit input on how to improve market accessibility for storage resources.

Public Policy Transmission Solutions

A cleaner, greener, integrated grid to serve New York requires a modernized, upgraded, and expanded transmission system to enable the new resource mix of a changing energy landscape in New York. Upgraded transmission capability is vital to meeting public policy goals and efficiently moving power to address regional power needs.



FERC's Order No. 1000 required that planning processes consider transmission needs driven by public policy requirements. Transmission projects that fulfill such public policy requirements will be eligible for cost recovery through the NYISO's tariff—if they are selected by the NYISO as the more efficient or cost-effective transmission solution to the need identified by the PSC. Through Order 1000, the PSC has identified Public Policy Transmission Needs in Western New York and on the UPNY-SENY and Central East interfaces.

For the Western New York Public Policy Transmission Need, the PSC determined that reducing transmission congestion in the region could achieve significant environmental, economic, and reliability benefits throughout the state. These include optimizing output from the Niagara Power Project, greater imports of renewable energy from Ontario, and increased operational flexibility and efficiency.

The NYISO solicited proposals to resolve the Western New York transmission need. Of the proposed solutions submitted by developers, the NYISO determined that ten proposals were viable and sufficient. In October 2016, following consideration of public comments, the PSC issued an order confirming the Western New York Need and determined that the NYISO should evaluate and select a transmission solution.

In the AC transmission proceeding, the Commission identified a Public Policy Transmission Need to relieve congestion on the UPNY-SENY and Central East interfaces, a section of the grid that runs from central New York through the Capital Region to the Lower Hudson Valley.

Developers submitted 15 transmission projects and one non-transmission project in response to NYISO's solicitation of proposed solutions. The NYISO identified 13 viable and sufficient projects, and filed its assessment with the PSC.

Throughout 2016, the NYISO engaged in detailed evaluations of the transmission proposals for both the Western New York and the AC Transmission Needs efforts. Each proposal will be evaluated to determine benefits to the transmission system, including their operability, expandability, performance and cost.

Following input from its stakeholders, the NYISO may select the more efficient or cost effective transmission project that, pending siting approval, could be built and recover its costs under the NYISO's tariffs. NYISO expects to complete its evaluation process for Western New York in 2017 and for the AC Transmission Need in early 2018.

Upgrading EMS/BMS Systems

The NYISO currently has a combined Energy Management System (EMS) and Business Management System (BMS) collectively referred to as 'Ranger'. This system was initially placed into operation in 2005, upgraded in 2007, and incrementally enhanced through marketplace and business directed initiatives.

In 2012, industrial technology company ABB announced that it would cease further evolution of the Ranger System in favor of consolidating the product into a single Network Manager product (NM). The Ranger System runs on a dedicated proprietary hardware platform projected to reach its end of support lifecycle in 2019. In June 2016, the NYISO executed a contract with ABB based on project milestones and tied to defined acceptance criteria.

The NYISO is committed to a multi-year effort to develop and deploy a new EMS/BMS system that will build upon our capabilities to create the platform for incorporating more sophisticated tools for regional coordination and the reliable integration of growing renewable and distributed resources.

Demand Curve Reset Process

In 2016, FERC approved a series of proposed enhancements to the NYISO's Installed Capacity (ICAP) Demand Curve reset process. The changes included extending the period between resets from the current three year cycle to a four year review and reset cycle, as well as allowing for annual adjustments to certain parameters which serve as inputs to the Demand Curves. The annual update process provides a mechanism to reflect changes in market conditions and the impacts of market rule enhancements implemented by the NYISO over time.

The proposal approved by FERC was the result of an extensive effort involving NYISO staff, stakeholders, and an independent consultant. In its July 18, 2016 Order, FERC said the changes "will improve transparency and market certainty and stability, better capture changes in market conditions, and reduce administrative burden."

In parallel to the efforts to enhance the reset process, the NYISO and stakeholders continued to collaborate on the development of revised ICAP Demand Curves for the period beginning with summer, 2017. The NYISO filed revised ICAP Demand Curves with FERC in November 2016.

NERC and CIP Technical Security Compliance

The NYISO successfully completed an independent audit of mandatory, newly-adopted North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) technical security compliance standards. The audit was conducted by the Northeast Power Coordinating Council (NPCC) and evaluated the NYISO's compliance on 33 requirements.

In its audit report, the NPCC concluded that the NYISO compliance culture "is indicative of a mature organization while still trying to achieve continuous improvement." The NPCC also commended the NYISO for employing new technologies and automation to improve security and compliance. The CIP standards provide rigorous security guidelines for organizations that are deemed crucial to the continued reliability of the North American bulk power system. To meet the CIP requirements, teams across the NYISO designed, revised, and implemented a significant number of security policies, procedures, processes and systems over the past two years.

The new NERC CIP standards became enforceable on July 1, 2016, and the NYISO was one of the first organizations in the country to adopt and be audited on the new standards.

Corporate Social Responsibility

The NYISO has a long history of employee contributions to numerous social and charitable causes. In 2016, the NYISO was recognized for achieving an 80% employee participation rate in its United Way campaign. The United Way presented the NYISO with the *Campaign of Distinction* award at the annual awards and business meeting. The award is presented to companies whose campaigns demonstrated significant growth and success due to renewed energy and community spirit.

The NYISO also received the *Partner in Giving* award for raising between $50,000 to $500,000 in 2015, and the *Gold Award* for achieving an average per capita contribution in the $100 to $199 range.

Throughout the year, NYISO employees also supported a number of other charitable endeavors, including contributions to the March of Dimes and American Red Cross Blood drives, as well as participation in the American Heart Association Heart Walk, CDPHP Workforce Challenge Run, and hosting meetings for the Society of Women Engineers, Toastmasters, and Women in Power.

In Summary

2016 was a year of considerable progress for the NYISO in terms of furthering clean energy initiatives, ensuring the long-term reliability of the energy supply that New Yorker's depend on, and integrating the public policy initiatives that continue to shape the future of our power grid. We look forward to building on this foundation and to collaborating with our market participants as we continue to explore avenues for innovation and efficiency.

Market Participants

3M Company
Abest Power & Gas, LLC
ABN Energy, LLC
AC Energy, LLC
Accent Energy Midwest II LLC dba IGS Energy
Aesir Power, LLC
AG Energy, L.P.
Agera Energy, LLC
Aggressive Energy, LLC
Agway Energy Services, LLC
Albany Energy LLC
Allegany Generating Station, LLC
Alpha Gas and Electric, LLC
Alphataraxia Nickel LLC
Ambit New York, LLC
American Power & Gas, LLC
Ameristar Energy LLC
Amherst Utility Cooperative (AUC)
AP Gas & Electric (NY), LLC dba APG&E
AP Gas & Electric (TX), LLC
Appian Way Energy Partners East, LLC
Approved Energy II LLC
Ardor Energy Limited Liability Company
ASC Energy Services, Inc.
Associated Renewable Inc.
Astoria Energy II, LLC
Astoria Energy LLC
Astoria Generating Company L.P.
Astral Energy LLC
Atlantic Energy, LLC
Atlantic Power and Gas LLC
ATNV Energy, LP
Axon Energy, LLC
Baker Boy, LLC
Barclays Services Corporation
Bayonne Energy Center, LLC
BBPC, LLC, d/b/a Great Eastern Energy
Binghamton BOP LLC
BioUrja Power, LLC
BJ Energy LLC
Black Oak Energy LLC
Blue Rock Energy, Inc.
BNP Paribas Energy Trading GP
Boralex Hydro Operations Inc
Boston Energy Trading and Marketing LLC
BP Energy Company
Brookfield Energy Marketing LP
Brookfield Renewable Energy Marketing US LLC
Broome Energy Resources, LLC
Brown's Energy Services LLC
Bruce Power Inc.
Buy Energy Direct, LLC
Calpine Energy Services LP
Canadian Wood Products - Montreal Inc
Canandaigua Power Partners, LLC
Canastota Windpower LLC
Cargill Power Markets, LLC
Carr Street Generating Station LP
Carthage Energy LLC
Castleton Commodities Merchant Trading L.P.
Castleton Power, LLC
Cayuga Operating Company, LLC
CCI Rensselaer LLC
CECONY-LSE
Censtar Energy Corp
Central Hudson Gas & Electric Corp.
Centre Lane Trading Ltd.
Champion Energy Services, LLC
Chesapeake Trading Group, LLC
CHI Power Marketing, Inc
Chief Energy Power, LLC
Chubu TT Energy Management Inc.
Citigroup Energy Inc.
Citizens Choice Energy, LLC dba AmeriChoice Energy
City of Niagara Falls
City Power & Gas, LLC
CleanChoice Energy, Inc. dba Ethical Electric
Clear Choice Energy, LLC
Clearview Electric, Inc.
Columbia Utilities Power, LLC
Commerce Energy, Inc. d/b/a Amigo Energy
Con Edison Solutions, Inc.
ConocoPhillips Company
Consolidated Edison Co. of New York, Inc.
Consolidated Edison Energy, Inc.
Consolidated Hydro New York, Inc.
Consolidated Power Co., LLC
Constellation Energy Power Choice, LLC
Constellation Energy Services of New York, Inc.
Constellation Energy Services, Inc.
Constellation NewEnergy, Inc.
Copperwood Energy Fund, LP
County of Erie NY
County of Niagara NY
Covanta Niagara, LP
Credit Suisse (USA), Inc.
Cummins Inc
Cumulus Master Fund
Cutone & Company Consultants, LLC
Danskammer Energy, LLC
Darby Energy, LLLP
DC Energy LLC
DC Energy New York, LLC
Direct Energy Business Marketing, LLC
Direct Energy Business, LLC
Direct Energy Marketing Inc
Direct Energy Services, LLC
Direct Energy Small Business, LLC
Drift Marketplace, Inc.
DTE Energy Trading Inc
Dynamis ETF, LLC
Dynasty Power Inc
Dynegy Marketing and Trade, LLC (DMT)
Eagle Creek Hydro Power, LLC
Eagle Power Authority, Inc.
Eagles Power, LLC

East Coast Power and Gas, LLC
East Coast Power, LLC
Ecesis LLC
EDF Energy Services, LLC
EDF Trading North America, LLC
EDP Renewables North America LLC
eKapital NY, LLC
Eligo Energy NY, LLC
Eligo Energy, LLC
Emera Energy Services Subsidiary No. 1, LLC
Emera Energy Services, Inc
Emera Energy U.S. Subsidiary No. 1, Inc.
Emera Energy U.S. Subsidiary No. 2, Inc.
EMP Power, LLC
Empire Generating Co, LLC
Empire Natural Gas Corp.
Enbala Power Networks (USA) Inc.
Energy Conservation and Supply, Inc.
Energy Cooperative of America, Inc dbaEnCoop of NY
Energy Discounters, LLC dba Maximum Power and Gas
Energy Limited Inc
Energy Plus Holdings LLC
Energy Power Investment Company, LLC
Energy Services Providers, Inc dba NY Gas&Electric
Energy Spectrum Inc.
Energy Technology Savings, Inc
Energya VM Gestion de Energia S.L.U.
EnergyMark, LLC
EnerNOC, Inc.
Enerwise Global Technologies, Inc. dba CPower
Engelhart CTP (US) LLC
Entergy Nuclear Fitzpatrick, LLC
Entergy Nuclear IP-2 LLC
Entergy Nuclear IP3, LLC
Entergy Nuclear Power Marketing LLC
Entergy Solutions LLC
Entra Energy LLC
Entrust Energy East, Inc.
Erie Boulevard Hydropower LP
Erie Wind, LLC
ETC Endure Energy L.L.C.
ETS Emerald LLC
Everyday Energy, LLC
Exelon Generation Company LLC
Family Energy Inc
FC Energy Services Company, LLC
First Choice Energy, Inc.
First Commodities International Inc.
Flanders Energy LLC
Flat Rock Windpower II LLC
Flat Rock Windpower LLC
Franklin Power LLC
Freepoint Commodities LLC
Freeport Electric
Frontier Utilities Northeast LLC
Galaxy Energy, LLC
Galt Power Inc.
Gateway Energy Services Corporation
GBE Power Inc.
GDF Suez Energy Marketing NA, Inc
GDF Suez Energy Resources NA, Inc
GDF SUEZ Retail Energy Solutions, LLC dbaThinkEner
GenOn Energy Management, LLC
Global Energy LLC
Green Island Power Authority
Green Mountain Energy Company
Green Mountain Power Corporation
Greenlight Energy Inc
GRG Energy LLC
Griffiss Utility Services Corporation
Group628, LLC
Hampshire Paper Co., Inc.
Hardscrabble Wind Power LLC
HIKO Energy, LLC
Homer City Generation, L.P.
Howard Wind LLC
HQ Energy Services (US)
HSBC Bank USA
Hudson Energy Services, LLC
Iberdrola Renewables, LLC
IDT Energy, Inc
Indeck Energy Svs of Silver Springs
Indeck-Corinth LP
Indeck-Olean LP
Indeck-Oswego LP
Indeck-Yerkes LP
Independence Energy Group LLC dba Cirro Energy
Inertia Power V, LLC
Infinite Energy Corp dba Definite Energy Group
Innovative Energy Systems, Inc.
Innoventive Power LLC
Inspire Energy Holdings, LLC
International Paper Company
IPKeys Power Partners, LLC
Islip Resource Recovery Agency
J Aron and Company
Jamestown Board of Public Utilities
Jericho Rise Wind Farm LLC
Josco Energy Corp.
Just Energy New York Corp
Kaleida Health
KASS Commodities, LLC
KFW Energy Trading, LLC
Kiwi Energy NY LLC
L&L Energy, LLC
Lavand & Lodge, LLC
Lexington Power & Light, LLC
Liberty Power Holdings LLC
Linde Energy Services, Inc.
Lockport Energy Assoc.
Long Island Power Authority
Lyonsdale Biomass, LLC
M&R Energy Resources Corp.
Macquarie Energy LLC
Madison Windpower, LLC
MAG Energy Solutions Inc.
Major Energy Electric Services, LLC
Mansfield Power and Gas, LLC
Marathon Power LLC
Marble River, LLC
Marsh Hill Energy LLC
Median Energy Corp.

Mercuria Energy America, Inc
Merrill Lynch Commodities, Inc.
Midwest Energy Trading East LLC
Mitchell Supreme Fuel Co.
Model City Energy, LLC
Modern Innovative Energy, LLC
Monroe County NY
Monterey NY, LLC
Morgan Stanley Capital Group, Inc.
Morgan Stanley Services Group Inc.
MPower Energy LLC
Munnsville Wind Farm, LLC
Nalcor Energy Marketing Corporation
National Gas & Electric, LLC
Nationwide Energy, LLC
NDC Partners LLC
NetPeak Energy Group LLC
New Athens Generating Company LLC
New Wave Energy Corp
New York Industrial Energy Buyers, LLC
New York Municipal Power Agency
New York Power Authority
New York State Electric & Gas Corp.
New York Transco LLC
Next Utility Energy LLC
NextEra Energy Power Marketing, LLC
NextEra Energy Services Massachusetts, LLC
NextEra Energy Services New York, LLC
Niagara Frontier Transportation Authority
Niagara Generation, LLC
Niagara Mohawk Power Corp.
Niagara University
Niagara Wind Power, LLC
Nine Mile Point Nuclear Station, LLC
Nissequogue Cogen Partners
Noble Altona Windpark, LLC
Noble Americas Energy Solutions LLC
Noble Americas Gas & Power Corp
Noble Bliss Windpark, LLC
Noble Chateaugay Windpark, LLC
Noble Clinton Windpark I, LLC
Noble Ellenburg Windpark, LLC
Noble Wethersfield Windpark LLC
NOCO Electric LLC
Nordic Energy Services, LLC
North American Power and Gas LLC
North Energy Power, LLC
Northbrook Lyons Falls, LLC
Northbrook New York LLC
Northern States Power Company
Northstar NY Ltd.
NRG Curtailment Solutions, Inc.
NRG Power Marketing LLC
NuEnerGen, LLC
Oasis Power, LLC d/b/a Oasis Energy
Occidental Power Services Inc
OCP Resources, LLC
Onondaga County
Ontario Power Generation Energy Trading, Inc.
Ontario Power Generation Inc.
Orange & Rockland Utilities, Inc.
ORU-LSE
Pacific Summit Energy LLC
Palmco Power NJ, LLC
Palmco Power NY, LLC
Pay Less Energy, LLC
Peninsula Power, LLC
Perigee Energy, LLC
Phoenix Energy Group, LLC
Planet Energy (New York) Corp
Plant-E Corp.
Plymouth Rock Energy, LLC
Power City Partners, L.P.
Power Supply Services LLC
Powerex Corporation
Precept Power LLC
Premier Empire Energy LLC
PSEG Energy Resource & Trade, LLC
Public Power, LLC
Pure Energy Inc
Quantum Power Corp.
R.E. Ginna Nuclear Power Plant, LLC
Rainbow Energy Marketing Corp
RBC Energy Services LP
Red Wolf Energy Trading, LLC
Red Wolf NT, LLC
ReEnergy Black River LLC
Reliant Energy Northeast, LLC dba NRG Retail Solut
Renaissance Power & Gas, Inc.
Repsol Energy North America Corporation
Residents Energy, LLC
Riverbay Corporation
Robison Energy, LLC
Rochester Gas & Electric Corp.
Roctop Investments Inc
Roseton Generating LLC
Royal Bank of Canada
Rubicon NYP Corp.
S.J. Energy Partners, Inc.
Sanctorum Energy Inc.
Saracen Energy East LP
Saracen Energy West LP
Saracen Power LP
Saranac Power Partners, L.P.
SBF New York, L.L.C.
SBR Energy, LLC
Schools & Municipal Energy Cooperative (SMEC)
Selkirk Cogen Partners, L.P.
Seneca Energy II, LLC
Seneca Power Partners, L.P.
SESCO Enterprises LLC
Sheldon Energy LLC
Shell Energy North America (US), L.P.
Siemens Industry, Inc
Smart One Energy, LLC
SmartEnergy Holdings, LLC
Sol Energy, LLC
Solea Energy, LLC
Solios Power LLC
Somerset Operating Company, LLC
South Bay Energy Corp.
South Jersey Energy Company
South Jersey Energy ISO1, LLC

South Jersey Energy ISO3, LLC
South Jersey Energy ISO4, LLC
South Jersey Energy ISO5, LLC
South Jersey Energy ISO6, LLC
South Jersey Energy ISO7, LLC
South Jersey Energy ISO8, LLC
Southern Energy Solution Group, LLC
Spark Energy, L.P.
Spartan Electricity Futures, Inc
Sperian Energy Corp
SREC Generating Company, Inc
Starion Energy NY, Inc
StatArb Investment LLC
State of New York - OGS
State of New York - OGS Municipal
State of New York - SUNY
State of New York - SUNY Buffalo
Stephentown Spindle, LLC
Sterling Power Partners, L.P.
Stony Creek Energy LLC
Stream Energy New York, LLC

Sustaining Power Solutions LLC
Synergy Biogas LLC
Talen Energy Marketing, LLC
Targray Americas Inc.
TC Ravenswood, LLC
TEC Energy Inc.
Tenaska Power Services Co.
Texas Retail Energy, LLC
Time Warner Inc.
TrailStone Power, LLC
TransAlta Energy Marketing (U.S.) Inc.
TransCanada Power Marketing, Ltd.
Transgrid Midwest LLC
Trident Retail Energy, LLC dba Trident Power
Triton Power Company
TrueLight Energy Fund, LP
Twin Eagle Resource Management, LLC
U.S. Energy Partners LLC
UGI Energy Services, LLC
Uncia Energy, LP - Series F

Uniper Global Commodities North America LLC
University of Rochester
Utility Expense Reduction, LLC
Velocity American Energy Master I, L.P.
Verde Energy USA New York, LLC
Village of Rockville Centre
Viridian Energy NY, LLC
Viridity Energy, Inc.
Virtual Power Hedging, LLC
Vitol Inc.
Watchtower Bible and Tract Society of New York, In
Western New York Wind Corp.
Wheelabrator Hudson Falls, LLC
Wheelabrator Westchester, L.P.
WM Renewable Energy, LLC
XO Energy NY, LP
XO Energy NY2, LP
XOOM Energy New York, LLC
XOOM Energy, LLC
Zone One Energy, LLC

2016 Financial Statements

Independent Auditors' Report

The Board of Directors
New York Independent System Operator, Inc.:

We have audited the accompanying financial statements of New York Independent System Operator, Inc. which comprise the statements of financial position as of December 31, 2016 and 2015, and the related statements of activities, and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly in all material respects, the financial position of New York Independent System Operator, Inc. and the results of its operations and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.

Albany, New York
March 13, 2017

KPMG LLP

NEW YORK INDEPENDENT
SYSTEM OPERATOR, INC.
Statements of Financial Position
December 31, 2016 and 2015

Assets		**2016**	**2015**
Current assets:			
Cash and cash equivalents	$	48,384,113	48,569,637
Restricted cash		420,933,363	352,720,173
Marketable securities - (note 8)		720,532	423,655
Accounts receivable – net (note 2)		5,352,084	37,550,745
Prepaid expenses		8,133,318	8,738,282
Other current assets		—	3,286
Total current assets		483,523,410	448,005,778
Noncurrent assets:			
Regulatory assets (note 3)		16,322,844	13,910,110
Property and equipment – net (note 4)		110,562,505	114,551,020
Other noncurrent assets (note 7)		4,167,483	5,431,239
Total noncurrent assets		131,052,832	133,892,369
Total	$	614,576,242	581,898,147
Liabilities			
Current liabilities:			
Accounts payable and accrued expenses	$	185,822,701	130,256,725
Market participant security deposits		232,400,182	257,132,016
Market participant prepayments		11,162,659	7,936,346
Working capital reserve (note 10)		33,148,714	33,011,079
Long-term debt – current portion (note 6)		23,353,697	23,180,349
Regulatory liabilities – current portion (note 3)		7,840,568	9,909,888
Deferred revenue (note 11)		10,659,256	6,750,052
Other current liabilities (note 8)		1,358,773	1,961,946
Total current liabilities		505,746,550	470,138,401
Noncurrent liabilities:			
Accrued pension liability (note 8)		4,930,278	3,820,083
Accrued postretirement liability (note 8)		6,633,487	5,061,122
Regulatory liabilities (note 3)		4,595,536	4,865,362
Other noncurrent liabilities (notes 7 and 8)		14,292,466	19,665,594
Long-term debt (note 6)		78,377,925	78,347,585
Total noncurrent liabilities		108,829,692	111,759,746
Total liabilities		614,576,242	581,898,147
Unrestricted net assets		—	—
Total liabilities and net assets		614,576,242	581,898,147

See accompanying notes to financial statements.

NEW YORK INDEPENDENT
SYSTEM OPERATOR, INC.
Statements of Activities
Years ended December 31, 2016 and 2015

		2016	2015
Revenues:			
Rate Schedule 1 tariff charge	$	156,253,809	168,269,091
Federal Energy Regulatory Commission fees recovery		12,397,456	—
Planning studies revenue		5,460,603	4,498,202
Fees and services		1,143,255	1,330,574
Grant revenue (notes 13 and 14)		—	683,185
Interest income		206,361	12,659
Total revenues		175,461,484	174,793,711
Operating expenses:			
Compensation and related benefits (note 8)		81,427,512	77,322,885
Depreciation (note 4)		24,179,894	27,395,084
Professional fees and consultants		23,294,133	22,230,646
Maintenance, software licenses and facility costs		19,413,423	19,014,704
Federal Energy Regulatory Commission fees		12,397,456	10,909,381
Administrative and other expenses		4,595,109	4,581,156
Interest expense		3,760,151	3,677,026
Telecommunication expenses		3,034,436	3,725,922
Insurance expense		2,914,612	2,856,994
Training, travel, and meeting expenses		1,752,317	1,861,519
Northeast Power Coordinating Council fees		264,718	260,980
Change in fair value of marketable securities		(38,060)	11,530
Change in fair value of interest rate swaps (note 7)		(1,534,217)	519,635
Grant expenses – New York transmission owners			—
(notes 13 and 14)		—	426,249
Total operating expenses		175,461,484	174,793,711
Change in unrestricted net assets		—	—
Unrestricted net assets, beginning of year		—	—
Unrestricted net assets, end of year	$	—	—

See accompanying notes to financial statements.

NEW YORK INDEPENDENT
SYSTEM OPERATOR, INC.
Statements of Cash Flows
Years ended December 31, 2016 and 2015

		2016	2015
Cash flows from operating activities:			
Change in unrestricted net assets	$	—	—
Adjustments to reconcile change in unrestricted net assets to net cash provided by operating activities:			
Depreciation		24,179,894	27,395,084
Amortization of debt issuances cost		172,648	170,750
Loss on disposition of assets		59,395	35,502
Unrealized (gain) loss on marketable securities		(38,060)	11,660
Change in operating assets and liabilities:			
Decrease in accounts receivable and prepaid expenses		32,803,625	41,295,398
(Increase) Decrease in restricted cash		(68,213,190)	64,641,895
Increase in marketable securities		(258,817)	(435,315)
(Increase) decrease in regulatory assets		(1,378,763)	26,555
Decrease (increase) other assets		1,267,043	(864,155)
Increase (decrease) in accounts payable and accrued expenses		54,944,289	(11,100,807)
Increase in market participant prepayments		3,226,313	2,221,431
Decrease in market participant security deposits		(24,731,834)	(105,403,921)
Increase in working capital reserve		137,635	930
Regulatory liabilities – current portion (note3)		(1,716,526)	3,656,834
Decrease in deferred revenue and other liabilities		(1,041,128)	(1,117,827)
Net cash provided by operating activities		19,412,524	20,534,014
Cash flows from investing activities:			
Acquisition of property and equipment (including capitalized interest)		(19,629,088)	(20,907,763)
Net cash used in investing activities		(19,629,088)	(20,907,763)
Cash flows from financing activities:			
Payment of debt issuance cost		(83,750)	(30,000)
Proceeds from revolving credit facility loan		6,000,000	7,000,000
Repayment of revolving credit facility loan		(6,000,000)	(7,000,000)
Repayment of 2011 – 2013 budget facility loan		(2,889,018)	(16,151,942)
Proceeds from 2014 – 2018 budget facility loan		25,000,000	25,000,000
Repayment of 2014 – 2018 budget facility loan		(24,941,403)	(7,719,909)
Proceeds from 2016 – 2018 EMS/BMS facility loan		6,730,000	—
Repayment of 2012 Infrastructure Loan		(2,646,316)	(2,646,316)
Repayment of Mortgage and Renovations loans		(1,138,473)	(1,075,462)
Net cash provided by (used in) financing activities		31,040	(2,623,629)
Net decrease in cash and cash equivalents		(185,524)	(2,997,378)
Cash and cash equivalents – beginning of year		48,569,637	51,567,015
Cash and cash equivalents – end of year	$	48,384,113	48,569,637
Supplemental disclosure of cash flow:			
Information – cash paid during the year for interest, net of capitalized interest	$	3,584,780	3,699,255
Noncash operating activity:			
Change in pension and postretirement liabilities	$	1,656,591	5,208,906
Noncash investing activities:			
Property and equipment additions which were accrued but not paid	$	4,593,356	3,971,670
Property and equipment additions previously accrued which were paid		3,971,670	4,508,179

See accompanying notes to financial statements.

(1) Summary of Significant Accounting Policies

(a) Business Description

The New York Independent System Operator, Inc. (NYISO) was formed in April 1997 and commenced operations on December 1, 1999. NYISO is incorporated in the state of New York as a not-for-profit organization. NYISO assumed the responsibilities of its predecessor, the New York Power Pool (NYPP), which had coordinated the reliability of New York State's electric power grid for more than 30 years. Formed as a result of Federal Energy Regulatory Commission (FERC) policies, NYISO monitors a network of 11,000 circuit miles of high-voltage transmission lines and serves approximately 400 market participants.

NYISO's mission, in collaboration with its 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, and providing factual information to policy makers, stakeholders and investors in the power system. The NYISO facilitates fair and open competition in the wholesale electricity markets in which electricity and related services are purchased and sold on the basis of competitive bidding. Billing invoices are issued by NYISO to each market participant to settle transactions occurring in the NYISO markets.

NYISO is governed by an independent board of directors, as well as a committee structure consisting of market participant representatives. In addition to FERC oversight, NYISO is also subject to regulation in certain aspects by the New York State Department of Public Service Commission.

(b) Basis of Accounting and Presentation

The accompanying financial statements have been prepared on an accrual basis of accounting in accordance with U.S. generally accepted accounting principles.

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Significant items subject to such estimates and assumptions include the useful lives of fixed assets, recoverability of regulatory assets, the valuation of derivative instruments, and reserves for employee benefit obligations.

(c) Regulatory Accounting

NYISO's financial statements are prepared in accordance with generally accepted accounting principles for rate-regulated entities, Financial Accounting Standards Board Accounting Standards Codification (FASB ASC) Topic 980, *Regulated Operations*. As such, regulators may permit specific incurred costs, typically treated as expenses by unregulated entities, to be deferred and expensed in future periods when it is probable that such costs will be recovered in customer rates. Incurred costs are deferred as regulatory assets when NYISO concludes that it is probable future revenues will be provided to permit recovery of the previously incurred cost. A regulatory liability is recorded when amounts that have been recorded by NYISO are likely to be refunded to customers through the rate-setting process.

(Continued)

(d) Revenue Recognition

Settlements of market participants' energy transactions are not reflected in NYISO's Statements of Activities since they do not represent revenues or expenses of NYISO, as NYISO merely acts as an intermediary in the settlement process. In this role, NYISO receives and disburses funds from and to market participants for each settlement period.

Effective July 1, 2012, NYISO's two FERC-approved tariffs, the Open Access Transmission Tariff (OATT) and the Market Administration and Control Area Services Tariff (Services Tariff), were amended to clarify NYISO's role as the single counterparty to market participant transactions in the NYISO markets. For all market participant transactions in the NYISO markets, flash title passes through NYISO immediately prior to passing to the ultimate buyer and seller of the product. This arrangement reinforces NYISO's authority to continue to net a market participant's offsetting financial positions in NYISO markets for credit and billing purposes; provides clarity in NYISO's legal standing to pursue collection from a bankrupt market participant; and, also complies with the FERC directives on credit policy requirements for competitive wholesale electricity markets.

NYISO's tariffs allow recovery of NYISO's capital requirements, operating expenses and debt service costs through a surcharge assessed to market participants. The revenue from this surcharge, Rate Schedule 1, is earned when energy is scheduled and dispatched. Market participants are then billed for such charges in the subsequent settlement period's invoice.

NYISO's Rate Schedule 1 includes a timing mechanism that effectively meets the requirements of an alternative revenue program set forth in ASC Topic 980, Regulated Operations, Subtopic 602, Revenue Recognition. Accordingly, revenue is recognized for net financing obligations and capital costs incurred during the reporting period based on the revenue requirement formula in the tariffs. NYISO has recorded as a component of Other Noncurrent Liabilities $8,427,823 and $12,531,130, respectively, in the accompanying 2016 and 2015 Statements of Financial Position in connection with this rate-making recovery mechanism.

Effective January 1, 2016, NYISO implemented an independent mechanism for recovering NYISO's share of the FERC's cost assessed under Part 382 of The Commission's regulations (the annual FERC fee) outside of NYISO's Rate Schedule 1. NYISO invoices market participants on a monthly basis to recover the estimated annual FERC fee. Once NYISO receives the invoice for the actual amount of the annual FERC fee, NYISO calculates a true-up amount equal to the difference between the estimated fee and the actual fee. NYISO recovers (or refunds) this true-up amount to market participants' over a six month period following receipt of the invoice. Annual FERC fee recoveries are held in a restricted, interest bearing escrow account until the invoice payment is due. NYISO recognizes this recovery of FERC fees as revenue which is offset by a corresponding FERC fee expense.

Revenues recorded as planning studies revenues arise from billing and collection services in the study service agreement process performed by NYISO. These revenues are offset by the corresponding study expenses, recorded in operating expenses, which were incurred in performing such studies. A portion of the deposits related to planning studies are nonrefundable and recorded as revenue when received.

(Continued)

(e) Government Grants

Government grants are recognized in the Statements of Activities in the period in which NYISO recognizes the related costs for which the government grant is intended to compensate.

(f) Cash and Cash Equivalents

NYISO considers short-term marketable securities with original maturities of three months or less to be cash equivalents. The cash equivalents at December 31, 2016 and 2015 were held in money market accounts invested primarily in short-term U.S. government obligations. NYISO's cash and cash equivalents consist primarily of funds accumulated for the working capital reserve, for general operating purposes, and amounts for funding certain employee benefit plans.

(g) Restricted Cash

Restricted cash consists primarily of market participant security deposits held in escrow accounts, amounts prepaid by market participants in advance of settlement billing dates, amounts collected on settlement invoices, amounts collected for Transmission Congestion Contract (TCC) auctions, amounts deposited for planning studies, amounts collected for the estimated annual FERC fee and amounts collected for voltage support services. Security deposits are invested at the market participant's choice in money market funds or short or intermediate-term bond funds. NYISO presents changes in restricted cash in the operating activities section of the Statements of Cash Flows instead of in the investing activities section. NYISO has determined that this classification is more suitable to the nature of its operations.

(h) Other Assets

Other assets consist primarily of timing differences on certain rate-making recoveries, the fair value of interest rate swap agreements, and noncurrent prepaid expenses.

(i) Property and Equipment

Property and equipment are recorded at cost. NYISO capitalizes property and equipment additions in excess of $5,000 with a useful life greater than one year. Depreciation is computed on the straight-line method over the assets' estimated useful lives of three to five years, except for building and building improvements, which are depreciated on a straight-line basis over 20 years. When assets are retired or otherwise disposed of, the cost and related depreciation are removed, and any resulting gain or loss is reflected in expense for the period. Repairs and maintenance costs are charged to expense when incurred.

Labor, overhead, interest, consulting, and related costs incurred to acquire and develop computer software for internal use are capitalized and amortized using the straight-line method over three years. Costs incurred prior to the determination of feasibility of developed software and following the in-service date of developed software are expensed.

NYISO capitalizes the interest cost as part of the historical cost of developing certain assets.

Long-lived assets are recorded at cost, and are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amounts of the assets may not be recoverable.

(Continued)

Management is not aware of any events or changes in circumstances that would necessitate a review of any long-lived assets as of the years ended December 31, 2016 and 2015.

(j) Working Capital Reserve

In order to maintain the liquidity and stability of NYISO's markets, NYISO has accumulated a working capital fund through amounts charged to market participants under the Rate Schedule 1. Any change to NYISO's working capital needs would be billed to market participants in future Rate Schedule 1 charges. Market participants are entitled to interest on their principal contributions to the working capital reserve. Each market participant is allocated interest based on the respective ratio share of each market participant's principal contributions to the total working capital fund. Accumulated interest on the working capital fund is distributed annually to market participants.

(k) Market Participant Prepayments

To reduce certain energy and ancillary services credit requirements, Market Participants may choose to prepay to the NYISO, in advance of settlement billing dates, their energy and ancillary services financial obligations. Moreover, certain Market Participants choose to make advance payments to the NYISO to be applied to future settlement invoices.

(l) Deferred Revenue

Advance payments from developers for planning studies, and funds received from FERC for the purpose of enhancing NYISO's surveillance capabilities are reflected as deferred revenue. Fees for participation in NYISO's governance process are billed to market participants in advance of the year for which they apply and are amortized over the related governance period. All such unamortized amounts are included in deferred revenue.

(m) Income Taxes

NYISO has been recognized by the Internal Revenue Service as an organization described in Internal Revenue Code (The Code) Section 501(c)(3) and is generally exempt from income taxes under Section 501(a) of the Code. During the calendar years 2016 and 2015, no unrelated business taxable income was generated by NYISO, and therefore no disclosure is made for federal or state income taxes.

The NYISO has determined prior to recording any benefit in the financial statements that it is more likely than not that the tax position will be sustained upon examination by the appropriate taxing authorities, as required by the Accounting for Uncertainty in Income Taxes Topic of the FASB ASC. 740. A tax position is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon settlement.

(n) Fair Value

NYISO utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. Fair value is determined based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between the observable and unobservable inputs, which are categorized in one of the following levels:

(Continued)

Level 1 inputs: Unadjusted quoted prices in active markets for identical assets or liabilities that NYISO has the ability to access at the measurement date

Level 2 inputs: Other than quoted prices included within Level 1 inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability

Level 3 inputs: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for a situation in which there is little, if any, market activity for the asset or liability at the measurement date

The level in the fair value hierarchy within which a fair value measurement in its entirety falls is based on the lowest-level input that is available for that particular financial instrument.

NYISO's financial instruments consist primarily of cash and cash equivalents, restricted cash, marketable securities, accounts receivable, prepaid expenses, accounts payable and accrued expenses, short-term and long term debt, and benefit plan assets such that carrying value approximates fair value. The fair value of derivative instruments and benefit plan assets is discussed in notes 7 and 8, respectively.

(o) Pension and Other Postretirement Benefit Plans

NYISO has a defined benefit pension plan covering certain employees upon their retirement. The benefits are based on years of service and employee's compensation during the five years before retirement. NYISO also sponsors a defined postretirement benefit medical plan for retired employees and their dependents. NYISO records annual amounts relating to its pension and postretirement plans based on calculations that incorporate various actuarial and other assumptions, including discount rates, mortality, assumed rates of return, compensation increases, turnover rates, and healthcare costs and trend rates. Assumptions are reviewed on an annual basis and modifications are made to the assumptions based on current rates and trends. The effect of modifications made to those assumptions utilized in recording its obligations under its plans are reasonable based on its experience and market conditions.

The net periodic costs are recognized as employees render the services necessary to earn the pension and postretirement benefits. Unamortized amounts that are expected to be recovered in rates in future years are recorded as a regulatory asset or liability. See note 8 for additional information.

(p) Concentration of Credit Risk

Financial instruments that subject NYISO to credit risk consist primarily of market settlement invoices and Rate Schedule 1 revenue due from market participants. As provided in the OATT and Services Tariff, NYISO reviews the creditworthiness of market participants, who are required to either maintain certain financial statement criteria and/or approved credit ratings, to post with NYISO, specified financial security in an amount sufficient to cover their outstanding liability to NYISO, or to prepay their obligations in advance of settlement billing dates.

(Continued)

NYISO's tariffs establish specific periods for the adjustment of settlement invoices and for market participant challenges to amounts billed for a particular service period. Settlement invoices can be adjusted for up to four months after the date of the monthly invoice issuance, and these invoices can be challenged for an additional one month after the issuance of all settlement adjustment invoices. Subsequent invoices issued during the settlement adjustment period "true up" amounts previously billed. After all true-up invoices are issued during the settlement adjustment period, market participants may challenge the amounts billed for a particular service period. If NYISO agrees with the provisions of the challenge, a final invoice is issued for that service period. As a result, NYISO is exposed to credit risk until all settlement adjustments and final invoices for each service period are finalized and liquidated. As of December 31, 2016, the adjustments and true-ups of all settlement invoices through March 2016 were completed. However, in the event of a market participant default and bad debt loss, Rate Schedule 1 of the OATT allows NYISO to recover bad debt losses from all remaining market participants on future invoices.

(q) Derivative Instruments

NYISO recognizes all derivative instruments as either assets or liabilities in the Statement of Financial Position at their respective fair value. The fair values of NYISO's derivative instruments are quoted by external sources. The changes in the fair value of these derivatives are recorded as a change in fair value of interest rate swaps in the Statement of Activities. Due to NYISO's regulated rates, any changes in fair value of these derivative instruments are recorded as either Other Current or Noncurrent Assets or Other Current or Noncurrent Liabilities, as appropriate. Payments on these derivative instruments are recorded and classified as interest expense.

NYISO uses derivative instruments primarily to hedge the cash flow effects of fluctuations in interest rates. NYISO is exposed to credit loss in the event of nonperformance by the commercial banks under the interest rate swap agreements. The credit risk related to hedge agreements is limited to the cost to NYISO to replace the aforementioned hedge arrangements with like instruments. NYISO monitors the credit standing of the counterparties and anticipates that the counterparties will be able to fully satisfy their obligations under the hedge arrangements. See note 7 for additional information.

(r) Debt Issuance Costs

Debt issuance costs are included as a direct deduction to the corresponding debt liability and have been deferred. Debt issuance costs are amortized using the effective interest method over the life of the associated debt issuance.

(Continued)

(2) Accounts Receivable

NYISO's accounts receivable at December 31, 2016 and 2015 consisted of the following:

		2016	2015
Billed:			
Miscellaneous billed receivables	$	400,942	468,083
Past-due-settlement invoices		16,986	18,054
Current-due settlement invoices		—	23,825,273
		417,928	24,311,410
Unbilled:			
Rate Schedule 1 revenue for December		4,199,999	2,328,355
Miscellaneous unbilled receivables		733,851	471,525
Replenishments of working capital reserve		306	306
Centralized TCC Two Year Auction		—	10,439,149
		4,934,156	13,239,335
Total	$	5,352,084	37,550,745

NYISO invoices market participants weekly for settlement charges and Rate Schedule 1 revenue. As of December 31, 2015, current due settlement invoices represented amounts invoiced on December 30, 2015 and were collected on January 4, 2016.

Past due settlement invoices as of December 31, 2016 and 2015 were settled as of January 2017 and 2016, respectively. Rate Schedule 1 of the OATT allows NYISO to recover bad debt losses from market participants and provides guidance on the provisions of such recoveries.

NYISO recovers its Rate Schedule 1 revenue in the invoice following the period of service. Therefore, a portion of unbilled Rate Schedule 1 revenues for December are billed and recovered in January of the subsequent year.

NYISO conducts a Centralized TCC Two Year Auction, with the second year payment due to the NYISO in January of the subsequent year.

(Continued)

(3) Regulatory Assets and Liabilities

At December 31, 2016 and 2015, regulatory assets and liabilities consisted of the following:

		2016	2015
Regulatory assets:			
Funding for pension benefits	$	9,688,484	8,654,513
Funding for postretirement deferred charges		6,205,342	5,255,597
Funding for postretirement benefits		429,018	—
Total regulatory assets		16,322,844	13,910,110
Less current		—	—
Noncurrent regulatory assets	$	16,322,844	13,910,110
Regulatory liabilities:			
Funding for pension deferred charges	$	4,595,536	4,671,760
Rate Schedule 1 transactional volume overcollections		3,614,539	4,393,160
Rate Schedule 1 underspending		3,688,090	3,881,577
Voltage support service (reactive power) market		537,939	1,635,151
Funding for postretirement benefits		—	193,602
Total regulatory liabilities		12,436,104	14,775,250
Less current		(7,840,568)	(9,909,888)
Noncurrent regulatory liabilities	$	4,595,536	4,865,362

(a) Funding for Pension and Postretirement Benefits

The pension and postretirement funding regulatory assets and liabilities reflect the unrecognized pension and postretirement benefit costs that would normally be recorded as a component of accumulated other comprehensive income or loss. Since these amounts represent costs or income that are expected to be included in future rates, they are recorded as deferred noncurrent regulatory assets or liabilities.

(b) Funding for Deferred Charges

The NYISO recovers its annual employer cash contributions for both the pension and postretirement benefit plans via Rate Schedule 1. The amounts in funding for deferred charges represents the pension and postretirement benefit costs net of cash contributions.

(c) Rate Schedule 1 Underspending

To the extent that NYISO's spending does not exceed the annual Rate Schedule 1 revenue requirement, a regulatory liability is established for the underspending amounts.

(Continued)

(d) Rate Schedule 1 Transactional Volume Overcollections

NYISO recovers its costs through a surcharge assessed to market participants via Rate Schedule 1 of the OATT and Services Tariff. To the extent that transactional volumes billed under Rate Schedule 1 exceed the amount expected when the Rate Schedule 1 surcharge is established, NYISO reflects a regulatory liability for the overcollection amounts.

(e) Voltage Support Service

In order to maintain acceptable transmission voltages on the New York State transmission system, certain market participants within the New York Control Area produce or absorb voltage support service (reactive power). Payments to market participants supplying voltage support service and recoveries from other market participants are assessed via Rate Schedule 2 of the OATT and Services Tariff. Differences between the timing of recoveries and payments for voltage support service that result in undercollections or overcollections are reflected as regulatory assets or liabilities.

(4) Property and Equipment

As of December 31, 2016 and 2015, property and equipment consisted of the following:

		2016	2015
Software developed for internal use	$	170,200,287	162,970,429
Building, building improvements, and leasehold improvements		102,407,284	100,335,776
Computer hardware and software		69,049,622	66,006,231
Work in progress		7,742,965	2,441,606
Machinery and equipment		7,230,957	6,989,015
Land and land improvements		3,333,126	3,307,867
Furniture and fixtures		3,269,928	3,247,784
		363,234,169	345,298,708
Accumulated depreciation		(252,671,664)	(230,747,688)
Property and equipment – net	$	110,562,505	114,551,020

Property and equipment includes interest of $99,113 and $117,019 capitalized during 2016 and 2015, respectively. Depreciation expense for the years ended December 31, 2016 and 2015 was $24,179,894 and $27,395,084, respectively.

Total capitalized labor for the years ended December 31, 2016 and 2015 was $5,570,047 and $6,224,002, respectively.

(Continued)

(5) Revolving Credit Facility

On October 22, 2013, NYISO entered into a $50.0 million Revolving Credit Facility with an effective date of January 1, 2014 through December 31, 2017. On March 18, 2016, this agreement was amended to extend the effective date through December 31, 2018. The proceeds from this Revolving Credit Facility are to be used for working capital purposes. Interest on borrowings under the Revolving Credit Facility is based on NYISO's option of varying rates of interest tied to either the prime rate or the London Interbank Offered Rate (LIBOR). At December 31, 2016 and 2015, respectively, there were no amounts outstanding on the Revolving Credit Facility. During 2016 and 2015, $6.0 million and $7.0 million in borrowings were made under this credit agreement, respectively, at an average interest rate of 1.326%.

(6) Long-Term Debt

At December 31, 2016, the following amounts were outstanding on NYISO's long-term debt:

	2014–2018 Budget facility loan (ii)	2016–2018 EMS/BMS facility loan (ii)	Mortgage (iii)	Renovations (iii)	2012 Infrastructure loan (iv)	Total
Outstanding balance	42,338,688	6,730,000	7,972,862	6,501,030	$ 38,592,113	102,134,693
Less current portion	(17,279,048)	(2,231,460)	(726,240)	(482,475)	(2,634,474)	(23,353,697)
Less unamortized debt issuance costs	(167,941)	(47,481)	(9,563)	(6,375)	(171,711)	(403,071)
Long-term portion	24,891,699	4,451,059	7,237,059	6,012,180	$ 35,785,928	78,377,925

At December 31, 2015, the following amounts were outstanding on NYISO's long-term debt:

	2011–2013 Budget facility loan (i)	2014–2017 Budget facility loan (ii)	Mortgage (iii)	Renovations (iii)	2012 Infrastructure loan (iv)	Total
Outstanding balance	2,889,018	42,280,091	8,657,499	6,954,867	$ 41,238,429	102,019,904
Less current portion	(2,802,253)	(16,607,024)	(683,512)	(453,086)	(2,634,474)	(23,180,349)
Less unamortized debt issuance costs	(86,765)	(203,839)	(10,688)	(7,125)	(183,553)	(491,970)
Long-term portion	—	25,469,228	7,963,299	6,494,656	$ 38,420,402	78,347,585

(Continued)

(i) On July 21, 2010, NYISO entered into an unsecured $75.0 million line-of-credit facility (2011–2013 Budget Facility), the proceeds of which may be drawn between January 1, 2011 and December 31, 2013 to fund capital purchases and the development of significant projects during 2011–2013. NYISO must convert each year's annual borrowings to term loans, with principal and interest payments payable over three years. Interest on borrowings under this facility is based on NYISO's option of varying rates of interest tied to LIBOR plus 175 basis points for borrowings, or the prime rate. Interest payments on borrowings are due monthly. On October 24, 2013, NYISO amended the interest rate on this credit facility to LIBOR plus 100 basis points. During 2012, $25.8 million was drawn on the 2011–2013 Budget Facility, which was converted to a term loan in January 2013 with monthly principal and interest payments payable from January 2013 through December 2015. At December 31, 2015, these borrowings were fully repaid. During 2013, an additional $24.2 million was drawn on the 2011–2013 Budget Facility, which was converted to a term loan in January 2014 with monthly principal and interest payments payable from January 2014 through December 2016. At December 31, 2016, these borrowings were fully repaid. At December 31, 2015, the interest rate on the remaining $2.9 million was fixed at 4.023%.

(ii) On October 22, 2013, NYISO entered into an unsecured $100.0 million line of credit facility (2014–2017 Budget Facility), the proceeds of which could be drawn between January 1, 2014 through December 31, 2017 to fund capital purchases and the development of significant projects during 2014–2017. On March 18, 2016, NYISO amended and restated its unsecured $100.0 million line of credit facility to increase the unsecured amount to $125.0 million and extend the maturity date to December 31, 2018 (2014-2018 Budget Facility). During 2014, $25.0 million was drawn on the 2014 – 2018 Budget Facility, which was converted to a term loan in January 2015 with monthly principal and interest payments payable from February 2015 through January 2018. At December 31, 2016, the interest rate on $0.7 million was fixed at 1.780%. At December 31, 2015, the interest rate on $13.3 million was fixed at 1.780% and the remaining $4.0 million was at 1.175%. During 2015, an additional $25.0 million was drawn on the 2014 – 2018 Budget Facility, which was converted to a term loan in January 2016 with monthly principal and interest payments payable from January 2016 through December 2018. At December 31, 2016, the interest rate on $13.3 million was fixed at 2.510% and the remaining $3.3 million was at 1.567%. At December 31, 2015, the interest rate on $20.0 million was fixed at 2.510% and the remaining $5.0 million was at 1.194 %. During 2016, an additional $25.0 million was drawn on the 2014 – 2018 Budget Facility, which was converted to a term loan in January 2017 with monthly principal and interest payments payable from January 2017 through December 2019. At December 31, 2016, the interest rate on $20.0 million was fixed at 3.370% and the remaining $5.0 million was at 1.567%.

(Continued)

On March 18, 2016, NYISO entered into a new unsecured $30.0 million delayed-draw term loan (EMS/BMS Facility Loan) to fund the replacement of NYISO's Energy Management and Business Management Systems (EMS/BMS). In accordance with the loan agreement, the proceeds of which can be drawn beginning March 18, 2016 through December 31, 2018. NYISO must convert each year's annual borrowings to term loans, with principal and interest payments payable over three years. Interest on borrowings under this facility is based on NYISO's option of varying rates of interest tied to LIBOR plus 95 basis points for borrowings, or the prime rate. Interest payments on borrowings are due monthly. During 2016, $6.7 million was drawn on the EMS/BMS Facility loan, which was converted to a term loan in January 2017 with monthly principal and interest payments payable from January 2017 through December 2019. At December 31, 2016, the interest rate on $3.0 million was fixed at 2.070% and the remaining $3.7 million was at 1.630%.

(iii) On July 8, 2005, NYISO entered into two financing agreements to purchase and renovate a 140,000-square foot office building in Rensselaer, NY. The first agreement is a $14.7 million mortgage to finance the building purchase (Mortgage), and the second agreement represents a $10.0 million line of credit for renovations during an 18-month period, beginning in July 2005 (Renovations Loan). The Mortgage has principal and interest payments payable over 20 years, beginning September 2005. Principal and interest payments on borrowings made during the Renovations Loan draw period are payable over 20 years, beginning in January 2007. During 2005, $14.7 million was borrowed on the Mortgage, and during 2006, $10.0 million was drawn on the Renovations Loan. Both agreements are secured by liens on the building and subsequent capitalized renovations. Interest on borrowings under both facilities is due monthly and is based on varying rates of interest tied to LIBOR plus 100 basis points.

(iv) On July 18, 2012, NYISO entered into the 2012 Infrastructure Loan to renovate its facilities in Guilderland, NY and to perform construction at its facility in Rensselaer, NY. The agreement permitted borrowings of up to $45.0 million through July 18, 2014. As of July 3, 2014 the full $45.0 million was drawn on the loan which was converted to a term loan on July 18, 2014. The NYISO is required to make interest only payments for up to 24 months, followed by 17 years of principal and interest payments. Interest on borrowings under the 2012 Infrastructure Loan is due monthly and is based on varying rates of interest tied to LIBOR plus 225 basis points. At December 31, 2016, the interest rate on $34.3 million was fixed at 4.149% and the remaining $4.3 million was at 2.867%. At December 31, 2015, the interest rate on $36.7 million was fixed at 4.149% and the remaining $4.5 million was at 2.494%.

Effective December 31, 2016, NYISO retrospectively adopted the provisions of the FASB Accounting Standards Update (ASU) No. 2015-03, Interest – Imputation of Interest (ASU 2015-03). ASU 2015-03 requires that debt issuance costs related to a recognized debt liability be presented in the statement of financial position as a direct deduction from the carrying amount of that debt liability. As a result, the NYISO has reclassified approximately $500,000 in debt issuance costs from other assets to a reduction in long-term debt payable in the balance sheet as of December 31, 2015.

Effective December 31, 2016, NYISO also retrospectively adopted the provisions of the FASB Accounting Standards Update (ASU) No. 2016-01, Financial Instruments – Overall (ASU 2016-01). ASU 2016-01 eliminates the requirement to disclose the fair value of financial instruments measured at amortized cost for nonpublic entities.

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At December 31, 2016, scheduled maturities of NYISO's long-term debt were as follows:

	2014–2018 Budget facility loan	2016–2018 EMS/BMS facility loan	Mortgage	Renovations	2012 Infrastructure loan	Total
2017	17,338,688	2,243,333	727,364	483,225	$ 2,646,316	23,438,926
2018	16,666,667	2,243,333	771,230	513,248	2,646,316	22,840,794
2019	8,333,333	2,243,334	817,743	545,136	2,646,316	14,585,862
2020	—	—	866,134	578,162	2,646,316	4,090,612
2021	—	—	919,297	614,926	2,646,316	4,180,539
Thereafter	—	—	3,871,094	3,766,333	25,360,533	32,997,960
Total	42,338,688	6,730,000	7,972,862	6,501,030	$ 38,592,113	102,134,693

(7) Derivatives and Hedging Activities

NYISO's derivative instruments are cash flow hedges used to manage its exposure related to changes in interest rates related to long-term debt. The NYISO does not enter into derivative instruments for any purposes other than cash flow hedging. By using derivative instruments to hedge exposure to changes in interest rates, NYISO is exposed to credit and market risk. Credit risk is the failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty owes the NYISO, which creates credit risk. When the fair value is negative, the NYISO owes the counterparty and, therefore, the NYISO is not exposed to the counterparty's credit risk in those circumstances. NYISO minimizes counterparty credit risk in derivative instruments by entering into transactions with high-quality counterparties. Market risk is the adverse effect on the value of a derivative instrument that results from a change in interest rates.

In February 2005, NYISO entered into two interest rate swap agreements with a commercial bank to fix interest rate payments on the financing of a new office building purchase. The notional amount of debt on the swap agreement for the Mortgage was $14,708,750. NYISO pays a fixed interest rate of 5.79% on the outstanding principal amount of this financing on payments from August 2005 through August 2025. The notional amount of debt on the swap agreement for the Renovations Loan was $10,000,000, and NYISO pays a fixed interest rate of 5.96% on payments from January 2007 through January 2027. As of December 31, 2016 and 2015, the fair value of these interest rate swap agreements was ($1,059,251) and ($1,367,247), respectively, for the Mortgage and ($1,038,290) and ($1,297,401), respectively, for the Renovations Loan, recorded in Other Noncurrent Liabilities. For the years ended December 31, 2016 and 2015, NYISO recorded a fair value gain of $567,107 and $279,487, respectively, related to these two swap agreements.

In July 2010, NYISO entered into three interest rate swap agreements with a commercial bank to fix interest rate payments on the 2011–2013 Budget Facility. The notional amount of debt on the swap agreements was $60,000,000. NYISO paid fixed interest rates ranging from 3.280% to 4.772% through the maturity date of December 31, 2016. On October 24, 2013, NYISO amended the interest rate on this credit facility to LIBOR plus 100 basis points. Due to this amendment, NYISO paid fixed interest rates ranging from 2.530% to 4.023%. As of December 31, 2016 and 2015, the fair value of these interest rate swap agreements was $0 and ($71,917), respectively, recorded in Other Noncurrent Liabilities. For the years ended December 31, 2016 and 2015, NYISO recorded a fair value gain of $71,917 and $308,127, respectively, related to these three swap agreements.

(Continued)

In July 2012, NYISO entered into an interest rate swap agreement with a commercial bank to fix interest rate payments on the 2012 Infrastructure Loan. The notional amount of debt on the swap agreements was $40,000,000. NYISO pays a fixed interest rate of 4.149% through July 2031. As of December 31, 2016 and 2015, the fair value of this interest rate swap agreement was $484,394 and $90,919, respectively, recorded in Other Noncurrent Assets. For the years ended December 31, 2016 and 2015, NYISO recorded a fair value gain of $393,475 and a fair value loss ($468,883), respectively, related to this swap agreement.

In October 2013, NYISO entered into four interest rate swap agreements with a commercial bank to fix interest rate payments on the 2014–2017 Budget Facility. The notional amount of the debt on the swap agreements was $80,000,000. In May 2016, NYISO entered into a fifth interest rate swap agreement with a commercial bank to fix interest rate payments on the 2014-2018 Budget Facility. The notional amount of the debt on the swap agreement was $20,000,000. NYISO pays fixed interest rates ranging from 1.780% to 4.076% through December 2021. As of December 31, 2016 and 2015, the fair value of these interest rate swap agreements was ($725,489) and ($1,080,809), respectively recorded in Other Noncurrent Liabilities. For the years ended December 31, 2016 and 2015, NYISO recorded a fair value gain of $355,320 and fair value loss of ($638,366), respectively, related to these five swap agreements.

In October 2016, NYISO entered into an interest rate swap agreement with a commercial bank to fix interest rate payments on the EMS/BMS Facility loan. The notional amount of the debt on the swap agreement was $15,000,000. NYISO pays a fixed interest rate of 2.07% through December 2021. As of December 31, 2016, the fair value of this interest rate swap agreement was $146,398 recorded in Other Noncurrent Assets. For the year ended December 31, 2016. NYISO recorded a fair value gain of $146,398 related to this swap agreement.

		Swap Notional amount at inception	Swap Notional amount at December 31, 2016	Swap Fair value at December 31, 2015	Swap Fair value at December 31, 2016		2016 Gain (loss) on fair value
Loan:							
2014 – 2018 Budget Facility	$	100,000,000	48,000,000	(1,080,809)	(725,489)		355,320
2011 – 2013 Budget Facility		60,000,000	—	(71,917)	—		71,917
2012 Infrastructure Loan		40,000,000	34,313,726	90,919	484,394		393,475
EMS/BMS Facility Loan		15,000,000	3,000,000	—	146,398		146,398
Mortgage		14,708,750	7,972,862	(1,367,247)	(1,059,251)		307,996
Renovations		10,000,000	6,501,030	(1,297,401)	(1,038,290)		259,111
Total						$	1,534,217

The fair value of NYISO’s interest rate swaps are determined using pricing models developed based on the LIBOR swap rate and other observable market data (Level 2 inputs).

(Continued)

The fair value of interest rate swaps are included in Other Noncurrent Assets and Other Noncurrent Liabilities. The following table presents the carrying amounts and estimated fair values of NYISO's interest rate swaps at December 31, 2016 and 2015:

		2016		2015	
		Carrying amount	Fair value	Carrying amount	Fair value
Financial assets:					
Interest rate swaps	$	630,792	630,792	90,919	90,919
Financial liabilities:					
Interest rate swaps	$	2,823,030	2,823,030	3,817,374	3,817,374

(8) Employee Benefit Plans

Defined Benefit Pension and Postretirement Plans

NYISO has a defined benefit pension plan covering certain employees upon their retirement. Plan benefits are based on employee compensation levels and years of service, including service for certain employees previously employed by NYPP member companies. Employees become vested in pension benefits after three years of credited service. There were no NYISO cash contributions made during 2016 and 2015 to the pension plan. Effective December 1, 2009, NYISO adopted changes to its pension plan to end the accrual of future benefits for most employees. Certain grandfathered employees will continue to accrue benefits until attaining age 55. NYISO replaced the defined benefit accruals with equivalent contributions to employee 401(k) plan accounts after December 1, 2009.

NYISO sponsors a defined benefit postretirement plan to provide medical benefits for eligible retirees and their dependents. Substantially all employees who retire from NYISO become eligible for these benefits provided they have been credited with at least ten years of NYISO service (5 years of NYISO service for those employees hired before January 1, 2005). The benefits are contributory based upon years of service, with NYISO paying up to 50% of costs for retired employees and up to 25% for their dependents (subject to specified dollar limits). Medical coverage becomes secondary upon Medicare eligibility.

Pursuant to resolutions adopted by NYISO's Board of Directors, NYISO's Retirement Board is responsible for administration of NYISO's pension and postretirement plans, including recommending investment policy to the Board of Directors, and monitoring investment performance. The Retirement Board reports to NYISO's Board of Directors and currently consists of NYISO's Chief Financial Officer, General Counsel, Vice President of Human Resources, and Controller. The Retirement Board provides reports to the Commerce and Compensation Committee of the Board of Directors on at least an annual basis.

NYISO records the overfunded or underfunded position of a defined benefit pension and postretirement plan as an asset or liability, with any unrecognized prior service costs, transition obligations, or gains/losses reported as recoverable under ASC Topic 980 and recorded as a regulatory asset or liability.

(Continued)

For payment of benefits under the postretirement plan, as noted above, the NYISO established a Voluntary Employee Benefit Association (VEBA) trust in January 2010. The assets held in the VEBA trust reduce the accumulated postretirement benefit obligation as reported on the NYISO's Statements of Financial Position. The VEBA trust held assets of $5,234,811 and $5,024,248 as of December 31, 2016 and 2015, respectively. As noted in the following table, current obligations are assumed to be paid out of the trust assets, with the remaining unfunded obligation to be reflected as a noncurrent liability.

The schedules that follow show the benefit obligations, the plan assets, and the funded status as of December 31, 2016 and 2015, and the change in benefit obligations for NYISO's pension and postretirement plans for the years ended December 31, 2016 and 2015.

	Pension plan		Postretirement plan	
	2016	2015	2016	2015
Change in benefit obligation:				
Benefit obligation – beginning of year	$ 31,394,538	32,191,533	10,085,370	5,786,728
Service cost	15,895	81,299	799,631	402,931
Interest cost	1,174,562	1,114,368	450,792	214,497
Actuarial (gain)/loss	807,645	(885,123)	665,092	3,796,215
Participant contributions	–	–	159,095	160,654
Benefits paid	(1,272,309)	(1,107,539)	(291,682)	(275,655)
Benefit obligation – end of year	32,120,331	31,394,538	11,868,298	10,085,370
Change in plan assets:				
Fair value of plan assets – beginning of year	27,574,455	29,539,782	5,024,248	5,221,244
Actual return on plan assets	1,058,192	(672,890)	390,198	(29,324)
Participant contributions	–	–	159,095	160,654
Benefits paid	(1,272,309)	(1,107,539)	(291,682)	(275,655)
Expenses paid	(170,285)	(184,898)	(47,048)	(52,671)
Fair value of plan assets – end of year	27,190,053	27,574,455	5,234,811	5,024,248
Funded status	$ 4,930,278	3,820,083	6,633,487	5,061,122

(Continued)

Amounts recognized in the 2016 and 2015 Statements of Financial Position consist of the following:

	Pension plan		Postretirement plan	
	2016	2015	2016	2015
Net actuarial (gain)/loss recognized in regulatory assets (liabilities)	9,688,484	8,654,513	429,018	(193,602)
Projected benefit obligation	(32,120,331)	(31,394,538)	(11,868,298)	(10,085,370)
Fair value of assets	27,190,053	27,574,455	5,234,811	5,024,248
Unfunded projected benefit obligation	(4,930,278)	(3,820,083)	(6,633,487)	(5,061,122)

Net periodic pension expense and other postretirement benefit costs include the following components:

	Pension plan		Postretirement plan	
	2016	2015	2016	2015
Service cost	$ 15,895	81,299	799,631	402,931
Interest cost	1,174,562	1,114,368	450,792	214,497
Expected return on plan assets	(1,244,068)	(1,266,588)	(300,678)	(314,203)
Amortization of unrecognized prior service cost	1,348	1,654	—	—
Amortization of unrecognized (gain) loss	128,487	539,109	—	(318,003)
Total	$ 76,224	469,842	949,745	(14,778)

NYISO uses a December 31 measurement date for its pension and postretirement benefit plans. NYISO's accumulated benefit obligation for the defined benefit pension plan is $32,085,216 and $31,353,122 at December 31, 2016 and 2015, respectively.

(Continued)

The following table as of December 31, 2016 and 2015 shows the assumptions used to calculate the pension and postretirement benefit obligations and net periodic costs:

	Pension plan		Postretirement plan	
	2016	**2015**	**2016**	**2015**
Benefit obligations:				
Discount rate	3.75%	3.90%	4.10%	4.30%
Rate of compensation increases	3.00	3.00	N/A	N/A
Net cost or credit:				
Discount rate	3.90%	3.65%	4.30%	3.90%
Rate of compensation increases	3.00	3.00	N/A	N/A
Expected return on plan assets	4.60	4.60	6.10	6.10

NYISO's expected rate of return on plan assets reflects anticipated returns on the pension and postretirement plans' current and future assets. To determine this rate, NYISO considers historical returns for equity and debt securities, as well as current capital market conditions and projected future conditions. The long-term investment objective for NYISO's pension plan is to maximize the total return on plan assets while limiting risk, reflected in volatility of returns, to prudent levels. To that end, NYISO's Retirement Board has appointed and regularly meets with an investment advisor to review asset performance, compliance with target asset allocation guidelines, and appropriate levels of asset diversification. NYISO's investment advisor operates under written guidelines provided by NYISO, which cover such areas as investment objectives, performance measurement, permissible investments, investment restrictions, and communication and reporting requirements. NYISO's pension and postretirement plan investments are composed of common stocks, mutual funds and commingled trust funds that are redeemable at net asset value (NAV) on a daily basis. Redemption of such investments generally requires 1 to 2 days written prior notice prior to the redemption date.

NYISO measured benefit obligations using the most recent RP-2014 mortality tables and MP-2016 mortality improvement scale in selecting mortality assumptions as of December 31, 2016.

The targeted allocation and actual investment mix of the pension plan's assets are as follows at December 31:

	2016		2015	
Asset category	**Target**	**Actual**	**Target**	**Actual**
Fixed income	70%	72%	70%	69%
International and emerging equities	15	15	15	15
Large cap equities	8	7	8	9
Mid cap equities	5	4	5	5
Small cap equities	2	2	2	2
Total	100%	100%	100%	100%

(Continued)

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The targeted allocation and actual investment mix of the VEBA Trust (postretirement) plan's assets are as follows:

Asset category	2016 Target	2016 Actual	2015 Target	2015 Actual
Domestic equities	50%	55%	50%	53%
Fixed income	35	31	35	31
International and emerging equities	15	14	15	16
Total	100%	100%	100%	100%

The actual rate of return for the pension plan's assets as of December 31, 2016 and 2015 is as follows:

Asset category	Annual returns December 31 2016	Annual returns December 31 2015
Small cap equities	17.1%	(4.6)%
Large cap equities	11.0	1.6
Mid cap equities	10.0	0.1
Fixed income	3.7	(0.7)
International and emerging equities	(1.4)	(12.2)
Total portfolio weighted average	3.8%	(2.4)%

The actual rate of return for the VEBA Trust (postretirement) plan's assets as of December 31, 2016 and 2015 is as follows:

Asset category	Annual returns December 31 2016	Annual returns December 31 2015
Domestic equities	13.7%	(3.1)%
Fixed income	1.9	(0.2)
International and emerging equities	(4.7)	2.0
Total portfolio weighted average	7.0%	(1.6)%

(Continued)

The fair values of the pension plan assets at December 31, 2016 and 2015 are presented below:

	2016 Fair value			
	Level 1	**Level 2**	**Level 3**	**Total**
Domestic investments:				
Equities:				
Small cap	$ 571,968	—	—	571,968
Mid cap	1,056,102	—	—	1,056,102
Large cap	1,912,943	—	—	1,912,943
Total	3,541,013	—	—	3,541,013
Fixed income	5,806,828	13,918,473		19,725,301
Total	5,806,828	13,918,473	—	19,725,301
International and emerging equities	3,850,694	—	—	3,850,694
Total	3,850,694	—	—	3,850,694
Cash and cash equivalents	73,045	—	—	73,045
	$ 13,271,580	13,918,473	—	27,190,053

	2015 Fair value			
	Level 1	**Level 2**	**Level 3**	**Total**
Domestic investments:				
Equities:				
Small cap	$ 692,463	—	—	692,463
Mid cap	1,360,989	—	—	1,360,989
Large cap	2,440,933	—	—	2,440,933
Total	4,494,385	—	—	4,494,385
Fixed income	5,470,524	13,609,013	—	19,079,537
Total	5,470,524	13,609,013	—	19,079,537
International and emerging equities	3,976,328	—	—	3,976,328
Total	3,976,328	—	—	3,976,328
Cash and cash equivalents	24,205	—	—	24,205
	$ 13,965,442	13,609,013	—	27,574,455

(Continued)

The fair values of VEBA Trust (postretirement) plan's assets at December 31, 2016 and 2015 are presented below:

	2016 Fair value			
	Level 1	Level 2	Level 3	Total
Domestic equities	$ 2,345,174	—	—	2,345,174
Fixed income	1,597,295	—	—	1,597,295
International and emerging equities	991,681	—	—	991,681
Total	4,934,150	—	—	4,934,150
Cash and cash equivalents	300,661	—	—	300,661
	$ 5,234,811	—	—	5,234,811

	2015 Fair value			
	Level 1	Level 2	Level 3	Total
Domestic equities	$ 2,262,573	—	—	2,262,573
Total	2,262,573	—	—	2,262,573
Fixed income:				
Fixed income securities	682,161	—	—	682,161
U.S. government obligations	547,476	—	—	547,476
Mortgage-backed securities	—	32,979	—	32,979
Corporate debt securities	—	283,242	—	283,242
Total	1,229,637	316,221	—	1,545,858
International and emerging equities	939,910	—	—	939,910
Total	939,910	—	—	939,910
Cash and cash equivalents	275,907			275,907
	$ 4,708,027	316,221	—	5,024,248

In 2016, the assumed postretirement plan healthcare cost trend rates for participants pre-65 are 7.5% for 2017 to 2018 decreasing to 4.75% in 2028, and the participants post-65 are 6.5% going from 2017 to 2018 decreasing to 4.75% in 2024. In 2015, the assumed post retirement plan healthcare cost trend rates for participants pre-65 are 7.5% for 2016 to 2017 decreasing to 5.0% in 2026, and the participants post-65 are 5.5% going from 2016 to 2017 decreasing to 5.0% in 2018. A one-percentage point change in the assumed healthcare cost trend rate would change the 2016 postretirement benefit obligation as follows:

(Continued)

		1% increase	1% decrease
Effect on postretirement benefit obligation	$	1,743,300	(1,352,600)
Effect on total of service and interest cost components		214,200	(161,200)

The following benefit payments, which reflect expected future service, are expected to be paid:

		Pension plan	Postretirement plan
2017	$	2,743,439	233,812
2018		2,409,336	280,866
2019		2,477,111	337,326
2020		2,598,011	431,165
2021		2,258,387	518,046
2022–2026		10,698,583	3,363,678

401(k) Plan

NYISO has a 401(k) Retirement and Savings Plan open to all nontemporary employees. This plan provides for employee contributions up to specified limits. NYISO matches 100% of the first 3% of employee contributions, and 50% of the next 2% of employee contributions. Beginning December 1, 2009, NYISO also contributes funds to employee 401(k) plan accounts equivalent to defined benefit accruals formerly earned in the pension plan.

Employees are immediately vested in NYISO’s matching contributions and become vested in other employer contributions after three years of credited service. The total NYISO contributions to the 401(k) plan were $5,865,501 and 5,482,768 for 2016 and 2015, respectively.

Long-Term Incentive Plan

NYISO’s Long-Term Incentive Plan provides certain members of senior management with deferred compensation benefits. Benefits are based upon the achievement of three-year performance goals established by the Board of Directors, with participants becoming fully vested and distributions payable for these deferred amounts after the completion of the audited financial statements for the third year. Benefits are paid out in equal installments over three years following the end of the three-year cycle. Accrued Long-Term Incentive Plan benefits included in Other Noncurrent Liabilities at December 31, 2016 and 2015, were $2,966,614 and $3,314,591, respectively. The short-term portion of such liability, included in Other Current Liabilities, at December 31, 2016 and 2015, was $1,171,900 and $1,657,296, respectively.

(Continued)

457(b) Plan - Eligible Deferred Compensation Plan

NYISO's 457(b) Plan provides for certain members of senior management to defer a portion of their current compensation and have it credited under a supplemental unfunded savings program. This Plan is intended to satisfy the requirements of an eligible deferred compensation plan maintained by NYISO as a non-government tax-exempt entity under Code section 457(e)(1)(B). The investment balance at December 31, 2016 and 2015 was approximately $700,000 and $400,000, respectively, recorded as marketable securities. The corresponding deferred compensation liability is recorded in Accounts Payable and Accrued Expenses.

(9) Other Commitments

On July 8, 2005, NYISO purchased an office building to relocate NYISO's alternate control center and to consolidate employees located in leased facilities. In connection with the purchase, management entered into a Payment in Lieu of Taxes (PILOT) Agreement with the Rensselaer County Industrial Development Agency (RCIDA) to achieve certain benefits. Per the terms of this agreement, NYISO is required to make annual payments of approximately $195,000 for the first 10 years. Effective January 1, 2016, this PILOT Agreement was amended to add three additional parcels of land purchased in 2014 and 2015, and to extend the term of the PILOT an additional 10 years. Per the amendment, NYISO is required to make annual payments of approximately $293,000, over the next 10 years. The agreement is cancelable at the discretion of NYISO.

(10) Working Capital Reserve

At December 31, 2016 and 2015, the working capital reserve consisted of the following:

		2016	2015
Market participant contributions through Rate Schedule 1	$	33,000,000	33,000,000
Interest on market participant contributions		148,714	11,079
Total	$	33,148,714	33,011,079

(11) Deferred Revenue

Deferred revenue at December 31, 2016 and 2015 consisted of the following:

		2016	2015
Advance payments received on planning studies	$	10,227,856	6,179,714
Governance participation fees		431,400	430,600
Funds received for the enhancement of surveillance capabilities		—	139,738
Total	$	10,659,256	6,750,052

(12) Commitments and Contingencies

NYISO is routinely involved in regulatory actions. In the opinion of management, none of these matters will have a material adverse effect on the financial position, results of operations, or liquidity of NYISO.

(Continued)

(13) Smart Grid Investment Grant

The NYISO received a $37.8 million Smart Grid Investment Grant from the United States Department of Energy (DOE) partially funding the New York State Capacitor/Phasor Measurement Project for the period July 1, 2010 through June 30, 2015. The NYISO and the eight New York transmission owners (TOs) are responsible for contributing $37.9 million in nonfederal matching funds to fully fund the $75.7 million project. As the prime recipient of the funds, the NYISO is responsible for administering the overall project on behalf of itself and the TOs. The NYISO and the TOs entered into a Subaward Agreement in 2010 that specifies the portion of the approved Federal grant funds that each entity is eligible to receive from the Government through reimbursement requests. Consistent with the requirements of the grant agreement with DOE, in order to receive its respective portion of the SGIG Award, each party must expend a matching amount. Under the Subaward Agreement, the NYISO's obligation to reimburse the TOs is limited to the amount that the NYISO receives from DOE in response to the TOs' requests for reimbursement. The NYISO and the TOs are eligible to receive reimbursement for allowable costs incurred from August 6, 2009–the approved pre-award period–through June 30, 2015. As of December 31, 2015, approximately $600,000, was recognized in NYISO's Statements of Activities in Grant revenue, which represents 50% reimbursement from DOE of NYISO's and the TO's allowable costs incurred. Recorded in NYISO's Statements of Activities is the TO's 50% share of allowable costs incurred. As of December 31, 2015, approximately $400,000 was classified as Grant expenses – New York Transmission Owners. The period of performance under this grant ended June 30, 2015.

(14) Eastern Interconnection Planning Collaborative Grant

On December 18, 2009, the DOE announced that the Eastern Interconnection Planning Collaborative (EIPC) would receive $16.0 million (the EIPC Award) in federal stimulus funding to promote collaborative long-term analysis and planning for the Eastern electricity interconnection, which will help states, utilities, grid operators, and others prepare for future growth in energy demand, renewable energy sources, and Smart Grid technologies. As the prime recipient of the EIPC Award, PJM Interconnection, L.L.C. (PJM), is responsible for administering the overall project on behalf of itself and seven other "Participating Principal Investigators," including the NYISO. The agreement with DOE for the EIPC Award was executed on July 19, 2010 and the project obligations became effective on July 16, 2010. NYISO has a separate agreement with PJM and the other Participating Principal Investigators (the EIPC Agreement) which specifies the parties' obligations under the EIPC Award. During 2013, DOE issued an extension to this grant to cover expenditures related to a gas-electric coordination study, effective through June 2015. Consistent with the requirements of the DOE agreement, NYISO is eligible to receive reimbursement of approximately $900,000 from DOE for expenditures incurred from March 1, 2010. Under the PJM agreement with the Participating Principal Investigators, PJM's obligation to reimburse the NYISO is only for the amount that PJM receives from DOE in respect of NYISO's request for reimbursement.

As of December 31, 2015, NYISO recognized approximately $100,000, in NYISO's Statements of Activities as Grant revenue. The period of performance under this grant ended June 30, 2015.

(15) Subsequent Events

NYISO considers events and transactions that occur after the balance sheet date, but before the financial statements are issued, to provide additional evidence relative to certain estimates or to identify matters that require additional disclosure. These financial statements were available to be issued on March 13, 2017 and subsequent events have been evaluated through that date.

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