2018 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, 2018 and 2017, 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, change in its net assets, and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.

Albany, New York
March 15, 2019

NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

Statements of Financial Position

December 31, 2018 and 2017

Assets		2018	2017
Current assets:			
Cash and cash equivalents	$	47,252,645	41,038,251
Restricted cash		368,035,848	402,474,459
Marketable securities - (note 8)		1,290,562	1,097,651
Accounts receivable – net (note 2)		8,359,716	6,514,674
Prepaid expenses		8,077,813	8,324,320
Regulatory assets - current portion (note 3)		—	1,778,962
Total current assets		433,016,584	461,228,317
Noncurrent assets:			
Regulatory assets (note 3)		18,825,201	19,672,395
Property and equipment – net (note 4)		110,925,435	110,942,990
Other noncurrent assets (note 7)		2,688,982	2,744,395
Total noncurrent assets		132,439,618	133,359,780
Total	$	565,456,202	594,588,097
Liabilities			
Current liabilities:			
Accounts payable and accrued expenses	$	111,069,517	101,383,316
Market participant security deposits		245,290,519	295,761,033
Market participant prepayments		10,368,954	8,920,739
Working capital reserve (note 10)		34,495,523	33,527,919
Long-term debt – current portion (note 6)		33,543,616	27,058,891
Regulatory liabilities – current portion (note 3)		12,171,929	4,621,822
Deferred revenue (note 11)		15,401,200	13,545,876
Other current liabilities (note 8)		2,527,302	1,449,538
Total current liabilities		464,868,560	486,269,134
Noncurrent liabilities:			
Accrued pension liability (note 8)		6,020,088	6,489,090
Accrued postretirement liability (note 8)		6,917,375	9,523,178
Regulatory liabilities (note 3)		5,724,195	3,496,584
Other noncurrent liabilities (notes 7 and 8)		5,999,588	10,034,584
Long-term debt (note 6)		75,926,396	78,775,527
Total noncurrent liabilities		100,587,642	108,318,963
Total liabilities		565,456,202	594,588,097
Unrestricted net assets		—	—
Total liabilities and net assets	$	565,456,202	594,588,097

See accompanying notes to financial statements.

NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

Statements of Activities

Years ended December 31, 2018 and 2017

	2018	2017
Revenues:		
Rate Schedule 1 tariff charge	$ 156,810,368	155,341,396
Federal Energy Regulatory Commission fees recovery	12,556,391	12,878,135
Planning studies revenue	10,921,281	10,346,409
Fees and services	1,060,092	1,199,388
Interest income	1,301,929	497,042
Total revenues	182,650,061	180,262,370
Operating expenses:		
Compensation and related benefits (note 8)	87,570,057	85,940,345
Professional fees and consultants	26,719,660	23,759,260
Maintenance, software licenses and facility costs	21,301,499	21,535,917
Depreciation (note 4)	19,400,167	20,587,146
Federal Energy Regulatory Commission fees	12,556,391	12,878,135
Administrative and other expenses	4,332,879	4,641,338
Interest expense	4,035,631	4,037,409
Telecommunication expenses	3,030,847	3,236,109
Insurance expense	2,740,722	2,843,827
Training, travel, and meeting expenses	1,892,477	2,017,384
Northeast Power Coordinating Council fees	260,590	281,227
Change in fair value of marketable securities	63,853	(117,006)
Change in fair value of interest rate swaps (note 7)	(1,254,712)	(1,378,721)
Total operating expenses	182,650,061	180,262,370
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, 2018 and 2017

		2018	2017
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		19,400,167	21,535,917
Amortization of debt issuances cost		72,730	88,355
Loss on disposition of assets		971	171,044
Change in fair value of marketable securities		63,853	(117,006)
Change in operating assets and liabilities:			
(Increase) decrease in accounts receivable and prepaid expenses		(1,577,535)	(1,353,592)
(Increase) decrease in restricted cash		34,438,611	18,458,904
Increase in marketable securities		(256,764)	(260,113)
Decrease in regulatory assets		2,101,741	(4,668,653)
Decrease other assets		140,413	1,423,088
(Decrease) increase in accounts payable and accrued expenses		11,022,085	(82,606,472)
(Decrease) increase in market participant prepayments		1,448,215	(2,241,920)
Increase (decrease) in market participant security deposits		(50,470,514)	63,360,851
Increase in working capital reserve		967,604	379,205
Increase (decrease) in regulatory liabilities		6,052,804	(2,504,826)
Decrease in deferred revenue and other liabilities		72,616	895,274
Net cash provided by operating activities		23,476,997	12,560,056
Cash flows from investing activities:			
Acquisition of property and equipment (including capitalized interest)		(20,719,467)	(23,920,359)
Net cash used in investing activities		(20,719,467)	(23,920,359)
Cash flows from financing activities:			
Payment of debt issuance cost		(121,000)	(15,000)
Proceeds from revolving credit facility loan		12,800,000	6,000,000
Repayment of revolving credit facility loan		(12,800,000)	(6,000,000)
Repayment of 2011 – 2013 budget facility loan		0	0
Proceeds from 2014 – 2018 budget facility loan		25,329,000	24,671,000
Repayment of 2014 – 2018 budget facility loan		(21,785,341)	(24,641,321)
Proceeds from 2016 – 2018 EMS/BMS facility loan		9,575,000	10,100,000
Repayment of 2016 - 2018 EMS/BMS facility loan		(5,610,000)	(2,243,333)
Repayment of 2012 Infrastructure Loan		(2,646,316)	(2,646,316)
Repayment of Mortgage and Renovations loans		(1,284,479)	(1,210,589)
Net cash provided by financing activities		3,456,864	4,014,441
Net decrease in cash and cash equivalents		6,214,394	(7,345,862)
Cash and cash equivalents – beginning of year		41,038,251	48,384,113
Cash and cash equivalents – end of year	$	47,252,645	41,038,251
Supplemental disclosure of cash flow information: – cash paid during the year for interest, net of capitalized interest	$	4,297,716	3,909,959
Noncash operating activity:			
Change in pension and postretirement liabilities	$	(4,249,329)	2,272,732
Change in fair value of interest rate swaps		(1,254,712)	(1,378,721)
Noncash investing activities:			
Property and equipment additions which were accrued but not paid	$	1,424,558	2,760,443
Property and equipment additions previously accrued which were paid		2,760,443	4,593,356

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.

(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 $1,183,447 and $4,778,865, respectively, in the accompanying 2018 and 2017 Statements of Financial Position in connection with this rate-making recovery mechanism.

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.

(e) 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, 2018 and 2017 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.

(f) 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. Effective September 2017, the short and intermediate-term bond fund investment options were eliminated. 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.

(g) 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.

(h) 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. These costs are reported as work in process until the deployment of the developed software. 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. 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, 2018 and 2017.

(i) 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.

(j) 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.

(k) Deferred Revenue

Advance payments from developers for planning studies 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.

(l) 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 2018 and 2017, 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.

On December 22, 2017, the President signed into law H.R. 1, originally known as the Tax Cuts and Jobs Act. The new law includes several provisions that result in substantial changes to the tax treatment of tax-exempt organizations. NYISO has reviewed these provisions and the potential impact and concluded the enactment of H.R. 1 did not have a material effect on the operations of the organization.

(m) 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:

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.

(n) 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.

(o) 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.

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, 2018, the adjustments and true-ups of all settlement invoices through March 2018 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.

(p) 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 and ultimately deferred for recognition due to regulatory recovery of interest costs. Payments on these derivative instruments are recorded and classified as interest expense.

NYISO uses derivative instruments primarily to hedge the 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.

(q) 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.

(2) Accounts Receivable

NYISO's accounts receivable at December 31, 2018 and 2017 consisted of the following:

		2018	2017
Billed:			
Past-due settlement invoices	$	2,402,727	—
Miscellaneous billed receivables		698,610	905,666
		3,101,337	905,666
Unbilled:			
Rate Schedule 1 revenue for December		4,322,761	4,485,155
Miscellaneous unbilled receivables		935,618	1,123,853
		5,258,379	5,609,008
Total	$	8,359,716	6,514,674

Past due settlement invoices as of December 31, 2018 are expected to be recovered in 2019. 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.

Miscellaneous billed and unbilled receivables are for planning study services provided by the NYISO in accordance with the NYISO (OATT). These revenues are offset by the corresponding planning study expenses, which were incurred in performing such studies.

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.

(3) Regulatory Assets and Liabilities

At December 31, 2018 and 2017, regulatory assets and liabilities consisted of the following:

		2018	2017
Regulatory assets:			
Funding for pension benefits	$	10,423,929	10,148,344
Funding for postretirement deferred charges		8,401,272	7,282,161
Funding for postretirement benefits		—	2,241,890
Voltage support service (reactive power) market		—	1,354,779
Rate Schedule 1 transactional volume undercollection		—	424,183
Total regulatory assets		18,825,201	21,451,357
Less current		—	(1,778,962)
Noncurrent regulatory assets	$	18,825,201	19,672,395
Regulatory liabilities:			
Rate Schedule 1 underspending	$	5,819,493	4,621,822
Rate Schedule 1 transactional volume overcollections		4,800,027	—
Funding for pension deferred charges		4,241,171	3,496,584
Voltage support service (reactive power) market		1,552,409	—
Funding for postretirement benefits		1,483,024	—
Total regulatory liabilities		17,896,124	8,118,406
Less current		(12,171,929)	(4,621,822)
Noncurrent regulatory liabilities	$	5,724,195	3,496,584

(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 under GAAP for rate-regulated entities are recorded as deferred noncurrent regulatory assets or liabilities. These amounts are expected to be included in future rates.

(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 amount.

(d) Rate Schedule 1 Transactional Volume Collections

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 fall short of the amount expected when the Rate Schedule 1 surcharge is established, NYISO reflects a regulatory asset for the undercollection amounts. 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, 2018 and 2017, property and equipment consisted of the following:

		2018	2017
Software developed for internal use	$	178,564,482	174,745,846
Building, building improvements, and leasehold improvements		105,949,020	105,001,210
Computer hardware and software		68,613,646	66,432,085
Work in Progress		25,948,862	15,032,453
Machinery and equipment		7,495,213	7,427,961
Land and land improvements		3,361,818	3,361,818
Furniture and fixtures		3,252,793	3,265,094
		393,185,835	375,266,467
Accumulated depreciation		(282,260,400)	(264,323,477)
Property and equipment – net	$	110,925,435	110,942,990

Property and equipment includes interest of $381,899, and $225,176 capitalized during 2018 and 2017, respectively. Depreciation expense for the years ended December 31, 2018 and 2017 was $19,400,167 and $21,535,917, respectively.

Total capitalized labor for the years ended December 31, 2018 and 2017 was $6,212,658 and $6,323,453, respectively.

(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, 2018 and 2017, respectively, there were no amounts outstanding on the Revolving Credit Facility. During 2018 and 2017, $12.8 million and $6.0 million in borrowings were made under this credit agreement, respectively, at an average interest rate of 2.921% and 2.067%, respectively.

On December 14, 2018 NYISO entered into a $30.0 million Revolving Line of Credit Facility with an effective date of January 1, 2019 through December 31, 2023. The proceeds from this Revolving Line of Credit Facility are to be used for working capital purposes. Interest on borrowings under this Revolving Line of 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).

(6) Long-Term Debt

At December 31, 2018, the following amounts were outstanding on NYISO's long term debt:

	2014–2018 Budget facility loan (i)	2016–2019 EMS/BMS facility loan (ii)	Mortgage (iii)	Renovations (iii)	2012 Infrastructure loan (iv)	Total
Outstanding balance	$ 45,912,026	18,551,667	6,474,268	5,504,557	33,299,480	109,741,998
Less current portion	(20,761,312)	(8,786,826)	(816,618)	(544,386)	(2,634,474)	(33,543,616)
Less unamortized debt issuance costs	(79,126)	(32,646)	(7,313)	(4,875)	(148,026)	(271,986)
Long-term portion	$ 25,071,588	9,732,195	5,650,337	4,955,296	30,516,980	75,926,396

At December 31, 2017, the following amounts were outstanding on NYISO's long-term debt:

	2014–2018 Budget facility loan (i)	2016–2018 EMS/BMS facility loan (ii)	Mortgage (iii)	Renovations (iii)	2012 Infrastructure loan (iv)	Total
Outstanding balance	$ 42,368,367	14,586,667	7,245,499	6,017,805	35,945,796	106,164,134
Less current portion	(17,545,467)	(5,596,346)	(770,105)	(512,498)	(2,634,475)	(27,058,891)
Less unamortized debt issuance costs	(115,085)	(40,701)	(8,438)	(5,625)	(159,867)	(329,716)
Long-term portion	$ 24,707,815	8,949,620	6,466,956	5,499,682	33,151,454	78,775,527

(i) 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. 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. 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 allow the proceeds to be drawn through December 31, 2018 (2014–2018 Budget Facility). NYISO must convert each year's annual borrowings to term loans, with principal and interest payments payable over three years.

On December 14, 2018 NYISO entered into a $90.0 million revolving Term Loan Facility with an effective date of January 1, 2019 through December 31, 2023. The proceeds from this Term Loan Facility are to be used for capital purchases and significant projects during 2019 -2023. Interest on borrowings under this Term Loan 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).

As of December 31, 2018 and 2017, the loan details on the 2015–2018 Budget Facility consisted of the following:

Draw year		2015	2016	2017	2018
Draw amount	$	25,000,000	25,000,000	24,671,000	25,329,000
Converted to term loan		January 2016	January 2017	January 2018	January 2019
Term period		36 months	36 months	36 months	36 months
Maturity date		12/1/2018	12/1/2019	12/1/2020	12/1/2021
As of 12/31/18:					
Outstanding balance at fixed interest rate	$	—	3,864,111	13,333,333	20,000,000
Fixed interest rate		N/A	3.370 %	4.076 %	2.250 %
Outstanding balance at variable interest rate	$	—	271,582	3,114,000	5,329,000
Variable interest rate		N/A	3.299 %	3.299 %	3.299 %
As of 12/31/17:					
Outstanding balance at fixed interest rate	$	1,030,701	13,333,333	20,000,000	—
Fixed interest rate		2.510 %	3.370 %	4.076 %	N/A
Outstanding balance at variable interest rate	$	—	3,333,333	4,671,000	—
Variable interest rate		N/A	2.457 %	2.465 %	N/A

(ii) 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 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.

On December 12, 2018, NYISO amended its EMS/BMS Facility Loan to allow proceeds to be drawn through December 31, 2019

As of December 31, 2018 and 2017, the loan details on the EMS/BMS Facility Loan consisted of the following:

Draw year		2016	2017	2018
Draw amount	$	6,730,000	10,100,000	10,100,000
Converted to term loan		January 2017	January 2018	January 2019
Term period		36 months	36 months	36 months
Maturity date		12/1/2019	12/1/2020	12/1/2021
As of 12/31/18:				
Outstanding balance at fixed interest rate	$	1,301,944	3,907,765	5,556,958
Fixed interest rate		2.070 %	2.070 %	2.070 %
Outstanding balance at variable interest rate	$	941,389	2,825,568	4,018,042
Variable interest rate		3.299 %	3.299 %	3.299 %
As of 12/31/17:				
Outstanding balance at fixed interest rate	$	2,676,005	6,023,995	—
Fixed interest rate		2.070 %	2.070 %	N/A
Outstanding balance at variable interest rate	$	1,810,662	4,076,005	—
Variable interest rate		2.457 %	2.433 %	N/A

(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). 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.

As of December 31, 2018 and 2017, the loan details on the Mortgage and Renovation Loans consisted of the following:

Loan		Mortgage	Renovation
Draw amount	$	14,708,750	10,000,000
Converted to term loan		September 2005	January 2007
Term period		20 Years	20 Years
Maturity date		7/1/2025	12/1/2026
As of 12/31/18:			
Outstanding balance at fixed interest rate	$	6,474,268	5,504,557
Fixed interest rate		5.790 %	5.960 %
As of 12/31/17:			
Outstanding balance at fixed interest rate	$	7,245,499	6,017,805
Fixed interest rate		5.790 %	5.960 %

(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, at which point the full $45.0 million was converted to a term loan. 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.

As of December 31, 2018 and 2017, the loan details on the 2012 Infrastructure Loan consisted of the following:

		December 31, 2018	December 31, 2017
Outstanding balance at fixed interest rate	$	29,607,843	31,960,784
Fixed interest rate		4.149 %	4.149 %
Outstanding balance at variable interest rate	$	3,691,637	3,985,012
Variable interest rate		4.599 %	3.781 %

At December 31, 2018, scheduled maturities of NYISO's long-term debt was as follows:

		2014–2018 Budget facility loan	2016–2019 EMS/BMS facility loan	Mortgage	Renovations	2012 Infrastructure loan	Total
2019	$	20,802,360	8,801,667	817,743	545,136	2,646,316	33,613,222
2020		16,666,666	6,558,333	866,134	578,162	2,646,316	27,315,611
2021		8,443,000	3,191,667	919,297	614,926	2,646,316	15,815,206
2022		—	—	974,739	653,131	2,646,316	4,274,186
2023		—	—	1,033,525	693,710	2,646,317	4,373,552
Thereafter		—	—	1,862,830	2,419,492	20,067,899	24,350,221
Total	$	45,912,026	18,551,667	6,474,268	5,504,557	33,299,480	109,741,998

(7) Derivatives and Hedging Activities

NYISO's derivative instruments are economic 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, 2018 and 2017, the fair value of these interest rate swap agreements was $(511,248) and ($761,519), respectively, for the Mortgage and $(564,461) and ($790,978), respectively, for the Renovations Loan, recorded in Other Noncurrent Liabilities. For the years ended December 31, 2018 and 2017, NYISO recorded a fair value gain of $476,788 and $545,044, respectively, related to these two swap agreements.

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, 2018 and 2017, the fair value of this interest rate swap agreement was $1,070,999 and $682,001, respectively, recorded in Other Noncurrent Assets. For the years ended December 31, 2018 and 2017, NYISO recorded a fair value gain of $388,997 and $197,607, 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 on the five swap agreements. As of December 31, 2018 and 2017, the fair value of these five interest rate swap agreements was $275,905 and ($128,708), respectively, recorded in Other Noncurrent Assets and Noncurrent Liabilities, respectively. For the years ended December 31, 2018 and 2017, NYISO recorded a fair value gain of $404,612 and $596,781, 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, 2018 and 2017, the fair value of this interest rate swap agreement was $170,001 and $185,687, respectively, recorded in Other Noncurrent Assets. For the years ended December 31, 2018 and 2017, NYISO recorded a fair value loss of $15,686 and fair value gain of $39,289, respectively, related to this swap agreement.

	Swap Notional amount at inception	**Swap Notional amount at December 31, 2018**	**Swap Fair value at December 31, 2017**	**Swap Fair value at December 31, 2018**	**2018 Gain (loss) on fair value**
Loan:					
2014 – 2018 Budget Facility	$ 100,000,000	37,197,444	(128,708)	275,904	404,612
2012 Infrastructure Loan	40,000,000	29,607,843	682,001	1,070,999	388,998
EMS/BMS Facility Loan	15,000,000	10,766,667	185,687	170,001	(15,686)
Mortgage	14,708,750	6,474,268	(761,519)	(511,248)	250,271
Renovations	10,000,000	5,504,557	(790,978)	(564,461)	226,517
Total					$ 1,254,712

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).

The fair value of interest rate swaps is 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, 2018 and 2017:

		2018		2017	
		Carrying amount	Fair value	Carrying amount	Fair value
Financial assets:					
Interest rate swaps	$	1,524,878	1,524,878	867,688	867,688
Financial liabilities:					
Interest rate swaps	$	1,075,708	1,075,708	1,681,205	1,681,205

(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. There was $800,000 and $0 in NYISO cash contributions made during 2018 and 2017, respectively, 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. 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. NYISO employees who retire on or after age 55 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, Director of Human Resources, General Counsel, Controller and Assistant Treasurer and one non-executive employee. 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.

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 $5,037,480 and $5,720,041 as of December 31, 2018 and 2017, 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, 2018 and 2017, and the change in benefit obligations for NYISO's pension and postretirement plans for the years ended December 31, 2018 and 2017.

	Pension plan		Postretirement plan	
	2018	2017	2018	2017
Change in benefit obligation:				
Benefit obligation – beginning of year	$ 31,583,799	32,120,331	15,243,219	11,868,298
Service cost	7,409	17,485	981,049	904,086
Interest cost	1,022,876	1,142,533	497,494	486,098
Actuarial (gain)/loss	(1,475,231)	2,227,811	(4,440,567)	2,239,665
Participant contributions	–	–	172,857	160,216
Settlements	–	(3,128,839)	–	–
Benefits paid	(1,042,607)	(795,522)	(499,197)	(415,144)
Benefit obligation – end of year	30,096,246	31,583,799	11,954,855	15,243,219
Change in plan assets:				
Fair value of plan assets – beginning of year	25,094,709	27,190,053	5,720,041	5,234,811
Actual return on plan assets	(622,936)	1,993,936	(312,417)	766,350
Employer contributions	800,000	–	–	–
Participant contributions	–	–	172,857	160,216
Settlements	–	(3,128,839)	–	–
Benefits paid	(1,042,607)	(795,522)	(499,197)	(415,144)
Expenses paid	(153,008)	(164,919)	(43,804)	(26,192)
Fair value of plan assets – end of year	24,076,158	25,094,709	5,037,480	5,720,041
Funded status	$ (6,020,088)	(6,489,090)	(6,917,375)	(9,523,178)

Amounts recognized in the 2018 and 2017 Statements of Financial Position consist of the following:

	Pension plan		Postretirement plan	
	2018	2017	2018	2017
Net actuarial (gain)/loss recognized in regulatory assets (liabilities)	$ 10,423,929	10,148,344	(1,483,024)	2,241,890
Projected benefit obligation	(30,096,246)	(31,583,799)	(11,954,855)	(15,243,219)
Fair value of assets	24,076,158	25,094,709	5,037,480	5,720,041
Unfunded projected benefit obligation	$ (6,020,088)	(6,489,090)	(6,917,375)	(9,523,178)

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

		Pension plan		Postretirement plan	
		2018	2017	2018	2017
Service cost	$	7,409	17,485	981,049	904,086
Interest cost		1,022,876	1,142,533	497,494	486,098
Expected return on plan assets		(1,179,239)	(1,221,646)	(359,432)	(313,365)
Amortization of unrecognized (gain) loss		203,019	154,223	—	—
Amortization of unrecognized prior service cost		1,348	1,348	—	—
Settlement loss		—	1,005,009	—	—
Total	$	55,413	1,098,952	1,119,111	1,076,819

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 $30,096,246 and $31,533,310 at December 31, 2018 and 2017, respectively.

During 2017, the sum of all lump-sum pension benefits paid during the year exceeded the sum of the service and interest cost components of the net periodic benefit cost for the year, resulting in the recognition of a net settlement loss of $1,005,009.

The following table as of December 31, 2018 and 2017 shows the assumptions used to calculate the pension and postretirement benefit obligations and net periodic costs:

	Pension plan		Postretirement plan	
	2018	2017	2018	2017
Benefit obligations:				
Discount rate	4.05%	3.40%	4.30%	3.75%
Rate of compensation increases	N/A	3.00	N/A	N/A
Net cost or credit:				
Discount rate	3.40%	3.75%	3.75%	4.10%
Rate of compensation increases	3.00	3.00	N/A	N/A
Expected return on plan assets	5.00	4.60	6.40	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' notice prior to redemption.

NYISO measured benefit obligations using the most recent RP-2014 mortality tables and MP-2018 mortality improvement scale in selecting mortality assumptions as of December 31, 2018.

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

	2018		2017	
Asset category	**Target**	**Actual**	**Target**	**Actual**
Fixed income	70%	71%	70%	70%
International and emerging equities	15	15	15	17
Large cap equities	8	8	8	7
Mid cap equities	5	4	5	4
Small cap equities	2	2	2	2
Total	100%	100%	100%	100%

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

	2018		2017	
Asset category	**Target**	**Actual**	**Target**	**Actual**
Domestic equities	50%	55%	50%	56%
Fixed income	35	33	35	29
International and emerging equities	15	12	15	15
Total	100%	100%	100%	100%

The actual rate of return for the pension plan's assets as of December 31, 2018 and 2017 is as follows:

	Annual returns December 31	
Asset category	**2018**	**2017**
International and emerging equities	(13.9)	26.4%
Large cap equities	(4.2)	22.8
Mid cap equities	(7.3)	20.1
Small cap equities	(13.3)	15.1
Fixed income	0.9	2.8
Total portfolio weighted average	(2.8)%	7.7%

The actual rate of return for the VEBA Trust (postretirement) plan's assets as of December 31, 2018 and 2017 is as follows:

Asset category	Annual returns December 31 2018	Annual returns December 31 2017
International and emerging equities	(15.6)%	27.8%
Domestic equities	(7.9)	17.0
Fixed income	—	3.4
Total portfolio weighted average	(6.5)%	14.1%

The fair values of the pension plan assets at December 31, 2018 and 2017 are presented below:

	2018 Fair value			
	Level 1	Level 2	Level 3	Total
Domestic investments:				
Equities:				
Small cap	$ 510,536	–	–	510,536
Mid cap	999,980	–	–	999,980
Large cap	1,771,650	–	–	1,771,650
Total	3,282,166	–	–	3,282,166
Fixed income	4,863,395	12,325,857		17,189,252
Total	4,863,395	12,325,857	–	17,189,252
International and emerging equities	3,631,324	–	–	3,631,324
Total	3,631,324	–	–	3,631,324
Cash and cash equivalents	(26,584)	–	–	(26,584)
	$ 11,750,301	12,325,857	–	24,076,158

	2017 Fair value			
	Level 1	Level 2	Level 3	Total
Domestic investments:				
Equities:				
Small cap	$ 535,633	—	—	535,633
Mid cap	943,284	—	—	943,284
Large cap	1,757,014	—	—	1,757,014
Total	3,235,931	—	—	3,235,931
Fixed income	5,070,768	12,568,618	—	17,639,386
Total	5,070,768	12,568,618	—	17,639,386
International and emerging equities	4,211,056	—	—	4,211,056
Total	4,211,056	—	—	4,211,056
Cash and cash equivalents	8,336	—	—	8,336
	$ 12,526,091	12,568,618	—	25,094,709

The fair values of VEBA Trust (postretirement) plan's assets at December 31, 2018 and 2017 are presented below:

	2018 Fair value			
	Level 1	Level 2	Level 3	Total
Domestic equities	$ 1,122,495	—	—	1,122,495
Fixed income	1,663,579	—	—	1,663,579
International and emerging equities	2,184,354	—	—	2,184,354
Total	4,970,428	—	—	4,970,428
Cash and cash equivalents	67,052	—	—	67,052
	$ 5,037,480	—	—	5,037,480

	2017 Fair value			
	Level 1	Level 2	Level 3	Total
Domestic equities	$ 1,394,099	—	—	1,394,099
Fixed income	1,670,194	—	—	1,670,194
International and emerging equities	2,565,250	—	—	2,565,250
Total	5,629,543	—	—	5,629,543
Cash and cash equivalents	90,498	—	—	90,498
	$ 5,720,041	—	—	5,720,041

In 2018, the assumed postretirement plan healthcare cost trend rates for participants pre-65 are 7.5% for 2019 to 2020 decreasing to 4.5% in 2031, and the participants post-65 are 5.25% going from 2019 to 2020 decreasing to 4. 5% in 2022. In 2017, the assumed postretirement plan healthcare cost trend rates for participants pre-65 are 8.5% for 2018 to 2019 decreasing to 4.75% in 2033, and the participants post-65 are 8.0% going from 2018 to 2019 decreasing to 4.75% in 2031. A one-percentage point change in the assumed healthcare cost trend rate would change the 2018 postretirement benefit obligation as follows:

		1% increase	1% decrease
Effect on postretirement benefit obligation	$	1,612,300	(1,263,300)
Effect on total of service and interest cost components		326,200	(245,500)

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

	Pension plan	Postretirement plan
2019	2,516,341	262,724
2020	2,770,582	349,892
2021	2,347,162	423,665
2022	2,230,393	499,462
2023–2028	12,172,475	4,115,179

401(k) Plan

NYISO has a 401(k) Retirement and Savings Plan open to all non-temporary 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 $6,426,626 and $6,121,157 for 2018 and 2017, 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, 2018 and 2017, were $3,214,475 and $3,574,514, respectively. The short-term portion of such liability, included in Other Current Liabilities, at December 31, 2018 and 2017, was $1,607,238 and $1,166,381, respectively.

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). Plan participants have the ability to invest these funds in the same investments offered by the NYISO 401(k) plan at their discretion. The investment balance at December 31, 2018 and 2017 was $1,290,562 and $1,097,651, 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 was 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 $301,000, over the next 7 years through 2025. The agreement is cancelable at the discretion of NYISO.

(10) Working Capital Reserve

At December 31, 2018 and 2017, the working capital reserve consisted of the following:

		2018	2017
Market participant contributions through Rate Schedule 1	$	33,000,000	33,000,000
Interest on market participant contributions		1,495,523	527,919
Total	$	34,495,523	33,527,919

(11) Deferred Revenue

Deferred revenue at December 31, 2018 and 2017 consisted of the following:

		2018	2017
Advance payments received on planning studies	$	14,975,100	13,128,976
Governance participation fees		426,100	416,900
Total	$	15,401,200	13,545,876

(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.

(13) 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 15, 2019 and subsequent events have been evaluated through that date.