PJM 2018 FINANCIAL REPORT

MANAGEMENT'S DISCUSSION AND ANALYSIS

FORWARD-LOOKING STATEMENTS

In addition to the historical information presented throughout this report, there are forward-looking statements that reflect management's expectations for the future. Sometimes the words "estimate," "plan," "expect," "believe," or similar expressions will be used to identify such forward-looking statements. These forward-looking statements are based on current expectations. These statements are not guarantees of future performance and are subject to certain risks and uncertainties.

Many factors could cause actual results to differ materially from these statements. These factors include, but are not limited to, the results of regulatory proceedings, the conditions of the capital markets, interest rates, actuarial assumptions, availability of credit, liquidity and general economic conditions; changes in accounting principles and practices; acts of terrorists; the actions of adjacent control areas and other Regional Transmission Organizations (RTOs); and other operational conditions that could arise on the power system. For a description of these and other factors that may cause actual results to differ, reference is made hereby to PJM Interconnection L.L.C.'s (PJM or the Company) Consolidated Financial Statements, Notes thereto and other documents filed by the Company from time to time with the Federal Energy Regulatory Commission (FERC).

These forward-looking statements represent PJM's estimates and assumptions only as of the date of this report, and PJM assumes no responsibility to update these forward-looking statements.

NATURE OF OPERATIONS

The Company currently coordinates a pooled generating capacity of more than 180,086 megawatts (MW) and operates wholesale electricity markets with more than 1,000 members. PJM enables the delivery of electric power to more than 65 million people in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

PJM manages a sophisticated regional planning process for generation and transmission expansion to ensure continued reliability of the electric system. Using information technology, PJM provides real-time information to market participants to support their daily transactions and business decision-making. In addition to ensuring the reliable supply of electricity, PJM administers internet-based bid markets in which participants buy and sell day-ahead and spot market energy, financial transmission rights (FTRs), synchronized reserves and regulation services.

PJM Settlement, Inc. (PJM Settlement) is a wholly-owned subsidiary of PJM, organized as a Pennsylvania nonprofit corporation, and is a FERC–regulated entity. PJM Settlement was formed to handle all of the credit, billing and settlement functions for PJM's members' transactions in the PJM markets and for transmission service. PJM Settlement acts as a counterparty to members' pool transactions in the PJM markets. For the pool transactions in the PJM markets, flash title passes through PJM Settlement immediately prior to passing to the ultimate buyer and seller of the product. This arrangement reinforces PJM's authority to continue to net a member's offsetting financial positions in PJM markets for credit and billing purposes, provides clarity in PJM Settlement's legal standing to pursue collection from a bankrupt member, and also complies with FERC's recommendation on credit policy requirements for competitive wholesale electricity markets.

Effective January 1, 2018, PJM completed a reorganization of the Company's unregulated subsidiaries. As part of this reorganization, the newly formed PJM Connext, LLC (PJM Connext) became the parent company to PJM Technologies, Inc. (PJM Tech) and PJM Environmental Services, Inc. (PJM EIS). PJM Connext is a wholly-owned subsidiary of PJM and is not a FERC-regulated entity. PJM Connext was formed to provide service and technology solutions pioneered by PJM to existing and emerging energy markets, system operators and RTOs.

PJM Tech is a wholly-owned subsidiary of PJM Connext and is not a FERC-regulated entity. PJM Tech provides international consulting services including training, program planning and implementation advice regarding development of wholesale electric market design and market rules.

PJM EIS is a wholly-owned subsidiary of PJM Connext formed to provide environmental and emissions attributes reporting and tracking services to its subscribers in support of renewable portfolio standards and other disclosure requirements that may be implemented by governmental agencies. PJM EIS is not a FERC-regulated entity.

TARIFF COST RECOVERY

PJM recovers its administrative costs through a stated-rate mechanism under the Company's Open Access Transmission Tariff (Tariff).

During 2016, PJM recovered costs through three elements approved under the Tariff. The first element was a composite rate, included in PJM stated-rate revenues. The composite rate was 29 cents per megawatt-hour (MWh). The second element was a rider for the Advanced Second Control Center (AC^2). The Tariff established a specific mechanism for PJM to collect from its members the actual costs to construct and operate AC^2 through a formula rate set forth in a separate schedule in the Tariff. The recovery was capped at the capitalized investment costs and operating costs of AC^2. During 2016, $19.6 million was billed under this rider. The third element included in PJM stated-rate revenues provided for accumulation of a financial reserve and subsequent refunds to PJM's members, if applicable. See the discussion under Deferred Regulatory Liability.

On October 31, 2016, PJM filed a rate revision proposal with the FERC requesting revisions to the Tariff to extend and update the Company's stated-rate mechanism for recovering its administrative costs of serving as a RTO. This application, which was approved on December 22, 2016, and took effect on January 1, 2017, combined the previous AC^2 rider charge with the existing composite stated-rate mechanism and increased the resulting composite stated-rate to 36 cents per MWh effective for 2017 and 2018. Starting in 2019, the composite stated-rate will increase by 2.5 percent each year on the first day of each of the next five calendar years. The composite stated-rate will be 41 cents per MWh effective January 1, 2024, and will remain at that level until PJM submits a superseding rate-change filing. No material changes were made to the substance of the Company's reserve and refund rules, and no changes were made to PJM Settlement's formulaic administrative cost recovery structure.

PJM Settlement recovers its administrative costs under a separate schedule under the Tariff.

SIGNIFICANT ACCOUNTING POLICIES

Preparation of the financial statements and related disclosures in compliance with generally accepted accounting principles in the United States requires the application of appropriate technical accounting rules and guidance, as well as the use of estimates. PJM's application of those principles involves judgments regarding many factors, which, in and of themselves, could materially affect the financial statements and disclosures. A future change in the assumptions or judgments applied in determining the following matters, among others, could have a material impact on future financial results: revenue recognition; net presentation of member activity; accounting for deferred recovery of pension and postretirement costs, accounting for deferred regulatory liability, benefit plan accounting, fixed asset capitalization, income tax accounting, and study and interconnection activity.

Net Presentation of Member Activity

The Company has determined that although PJM has flash title to pooled transactions through the wholly-owned subsidiary, PJM Settlement, all activity for which PJM Settlement is the central counterparty should be recorded on a net basis. The Company's determination is based on these facts: (1) the member company, not PJM Settlement, is the primary obligor in each transaction; (2) PJM Settlement earns a fixed amount per transaction; (3) and, the member company has the credit risk, not PJM Settlement. As such, the Company presents member activity for which PJM Settlement is the central counterparty, including accounts receivable, accounts payable, FTRs, and revenue and expense, on a net basis in its consolidated financial statements.

Deferred Recovery of Pension and Postretirement Costs

The Company recognizes the funding status of the projected benefit obligation (PBO) of its defined benefit pension plan and other postretirement employee benefit plan as liabilities in the Consolidated Statements of Financial Position. The PBO represents the actuarial present value of benefits attributable to employee service rendered to date, including the effects of estimated future salary increases. At December 31, 2018, in addition to recording the underfunded PBO as a liability, PJM recorded a regulatory asset to reflect the anticipated future recovery of the amounts expected to be funded in the future through the Company's rate structure. This regulatory asset, which will be amortized each quarter as the net periodic benefit cost of the underfunded liability is recognized, was $30.1 million and $38.6 million at December 31, 2018 and 2017, respectively.

Deferred Regulatory Liability

PJM recovers as service fees its administrative costs under its stated-rate tariff.

The stated-rate tariff provides for the accumulation of a financial reserve. PJM is permitted to maintain a reserve as a deferred regulatory liability in an amount up to 6 percent of its annual stated-rate revenues, except that beginning for 2020 and every third year thereafter, the financial reserve must be reduced to 2 percent of annual stated-rate revenues. The amount accumulated under the financial reserve provisions is classified as a non-current liability in the Company's Consolidated Statements of Financial Position. On a quarterly basis, PJM refunds the deferred regulatory liability balance in excess of the permitted financial reserve for the previous quarter. The quarterly refund rate is established after the financial close of each quarter, and refunds are distributed to the members on a prospective basis in the following quarter. During calendar year 2018 and calendar year 2017, PJM made refunds of $13.3 million and $15.2 million, respectively. For calendar year 2016, PJM did not make any refunds.

Any under or over refund amounts will be reflected in the deferred regulatory liability activity in the following quarter.

No material changes were made to the substance of the Company's reserve and refund rules as a result of the October 31, 2016, rate revision proposal filed with FERC, which was approved on December 22, 2016, and effective January 1, 2017.

For PJM Settlement, the deferred regulatory liability is defined in its rate schedule in the Tariff and is equal to revenues collected in excess of accrual-basis expenses. This balance is refunded quarterly. The quarterly refund rate is established after the financial close of each quarter, and refunds are distributed to the members on a prospective basis in the following quarter. The PJM Settlement rate schedule does not include a financial reserve element.

PJM recognizes deferred regulatory income in the revenue section of the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income for the amount by which service fee revenues pursuant to the rate schedules differ from applicable expenses in the reporting period. The amount by which cumulative revenues under the rate schedules exceed cumulative expenses and refunds is reported as a deferred regulatory liability in the Consolidated Statements of Financial Position. In circumstances in which revenues are less than expenses, PJM reduces the deferred regulatory liability with an offset to deferred regulatory income.

At December 31, 2018 and 2017, the deferred regulatory liability was $24.2 million and $9.9 million, respectively. At December 31, 2018, the current portion of the deferred regulatory liability was $6.4 million representing PJM and PJM Settlement's expected refunds to members during the first quarter of 2019. At December 31, 2017, the current portion of the deferred regulatory liability was $0.1 million, which was refunded to members by PJM Settlement during the first quarter of 2018. The non-current portion of the deferred regulatory liability of $17.8 million and $9.8 million represents the amount of PJM's reserve at December 31, 2018 and 2017, respectively.

Benefit Plan Accounting

PJM accrues the costs of providing future employee benefits in accordance with the guidance of Employers' Accounting for Pensions and Postretirement Benefits Other than Pensions. Under this guidance, assumptions are made regarding the valuation of benefit obligations and performance of plan assets. Delayed recognition of differences between actual results and those assumed is a guiding principle of these standards. This approach allows for a relatively even recognition of the effects of changes in benefit obligations and plan performance over the working lives of the employees who benefit under the plans.

In addition to recognizing the underfunded or overfunded PBO of a defined benefit pension plan as an asset or a liability in the Consolidated Statements of Financial Position, PJM recognizes annual changes in gains or losses, prior service costs or other credits that have otherwise not been recognized as a part of the liability for pension benefits in the Consolidated Statements of Financial Position. A corresponding regulatory asset, deferred recovery of pension and postretirement costs, has been recognized as a non-current asset in the Consolidated Statements of Financial Position.

PJM's selection of the discount rate, health care cost trend rate and expected rate of return on pension assets is based on its review of available current, historical and projected rates, as applicable.

In selecting the discount rate assumption for the PJM retirement plan at December 31, 2018, the Company used a method that matches projected payouts from the plan with a yield curve that was produced from a universe containing over 500 U.S.-issued Aa-rated corporate bonds, all of which were noncallable (or callable with make-whole provisions), and excluding the 10 percent of the bonds with the highest yields and the 10 percent with the lowest yields. The discount rate was then developed as a level equivalent rate that would produce the same present value as would result using spot rates to discount the projected pension benefit payments. Based on this analysis, the discount rate for its pension plan and postretirement health care plan increased to 4.30 percent at December 31, 2018. The results during 2018 were derived using a discount rate of 3.70 percent.

In selecting an expected return on plan assets, PJM considers past performance and economic forecasts for the types of investments held by the plans. The assumption for the expected rate of return on assets was 6.60 percent during 2018. The assumption for the expected rate for which compensation will increase remained at 4.50 percent at December 31, 2018. In selecting health care cost trend rates, PJM considers past performance and forecasts of health care costs. The rate selected at December 31, 2018, for pre-65 plan participants was 6.17 percent, declining to 4.46 percent over the next 20 years. The rate selected at December 31, 2018, for post-65 plan participants was 6.93 percent, declining to 4.45 percent over the next 20 years.

During 2018, PJM expensed net periodic pension and other postretirement benefit costs of $9.5 million.

Fixed Asset Capitalization

PJM's fixed assets comprise principally software and capitalized software development costs, leasehold improvements, computer hardware and buildings. The costs incurred to acquire and develop computer software for internal use, including financing costs, are capitalized. However, costs incurred prior to the determination of feasibility of developed software and costs incurred following the in-service date of developed software are expensed. Fixed assets are depreciated or amortized using the straight-line method over the useful lives of the assets as follows:

Software and capitalized software development costs	3 to 10 years
Computer hardware	3 to 5 years
Vehicles	5 years
Furniture and fixtures	10 years
Leasehold improvements	10 to 15 years
Buildings	25 years

Income Tax Accounting

PJM has elected to be taxed as a corporation for both federal and state income tax purposes. PJM and its subsidiaries file a consolidated federal income tax return. The consolidated financial statements include prepaid income taxes, accrued income taxes and deferred income taxes. Prepaid income taxes relate to federal and state overpayments on deposit with taxing authorities. These overpayments will be applied to future federal and state income tax liabilities. Deferred income taxes represent the temporary differences between the Company's financial statement basis and tax basis in existing assets and liabilities measured using presently enacted tax rates. A valuation allowance has been provided against certain deferred tax assets in which management has concluded it is more likely than not the Company will be unable to recognize the income tax benefit associated with those future tax deductions.

Study and Interconnection Activity

Under the Tariff, PJM's transmission provider role is to direct the operation and coordinate the maintenance of the transmission system and indicate, based on studies conducted by PJM, necessary enhancements or modifications to the transmission system. The modifications that are performed on the transmission system, such as network upgrades and generation additions, are conducted principally by third-party vendors at the request of transmission customers. In its system planning capacity as transmission service provider, PJM provides billing and collection services in the interconnection service agreement process. Billings and collections by PJM for work it performs on behalf of the counterparties to the specific interconnection agreements are reported on a net basis in the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income.

RESULTS OF OPERATIONS FOR 2018, 2017, 2016

REVENUES

PJM's service fees increased $1.9 million, or 1 percent, to $309.8 million from 2017 to 2018. Transmission volumes for 2018 were 836 terawatt hours (TWhs) as compared with 807 TWhs for 2017.

PJM's service fees increased $32.5 million, or 12 percent, to $307.9 million from 2016 to 2017. The variance in service fees is principally due to the implementation of new stated-rate tariff rates on January 1, 2017. Transmission volumes for 2017 were 807 TWhs as compared with 830 TWhs for 2016.

Deferred regulatory income represents the change in PJM's deferred regulatory liability for the period resulting from PJM's stated-rate tariff service fees in excess of or lower than expenses. For the year ended December 31, 2018, PJM recorded $27.6 million in deferred regulatory income, an increase of $11.7 million from 2017. At December 31, 2017, PJM recorded $15.8 million in deferred regulatory income, an increase of $13.7 million from 2016.

Net income is derived from PJM's non-FERC regulated subsidiaries. Net income was $1.1 million, $0.4 million and $0.1 million for each of the years ended December 31, 2018, 2017 and 2016, respectively.

EXPENSES

Total expenses, excluding FERC fees, study and interconnection services, interest expense, and income taxes, increased $3.2 million to $288.7 million in 2018 as compared with an increase of $7.7 million in 2017. The increase in expenses in 2018 resulted primarily from an increase in compensation expense due to increased headcount resulting from targeted contractor conversions to employees and increased software subscription costs and cloud storage services.

Total expenses, excluding FERC fees, study and interconnection services, interest expense, and income taxes, increased $7.7 million to $285.1 million in 2017 as compared with an increase of $2.1 million in 2016. The increase in expenses in 2017 resulted primarily from the following factors: (1) an $8.7 million increase in compensation expense principally due to annual merit increases and an increase in the number of employees year over year, and (2) a $5.6 million increase in outside services resulting from increased contractor expenses. Those increases in expenses were partially offset by a $5.9 million reduction in depreciation and amortization expense primarily due to portions of the AC^2 capital investment becoming fully depreciated.

For each of the years ended December 31, 2018, 2017 and 2016, outside services included amounts paid to PJM's independent auditor, PricewaterhouseCoopers LLP, totaling $1.0 million, which were predominantly for audits of the PJM Consolidated Financial Statements and examination of certain internal controls related to PJM's market settlements and associated information technology systems and processes.

Key information systems, system enhancements and capital investments completed by PJM in 2018 include:

- *Market System Enhancements*: enhancing FTRs, capacity markets and market coordination, Day-Ahead Market performance and implementation of 5-minute settlements.
- *Operations and Planning System Enhancements*: enhancing Operations and Planning applications, including the energy management system, dispatch interactive map application, forecasting applications, dispatcher tools and interconnection database and planning applications.
- *Technology Infrastructure and Visualization*: upgrading servers, storage, network and telecommunications and replacing the dispatcher video wall.
- *Facilities Infrastructure*: replacing uninterrupted power supply systems at control centers and site transformers.
- *Information Technology*: expanding the data tool for providing PJM members with markets and operations information and replatforming the capacity market application.
- *Access Management*: modifying and enhancing PJM's applications used to monitor and grant user access to systems and facilities ensuring PJM meets compliance requirements.

BILLINGS FOR SERVICES

Membership decreased to 1,018 members at December 31, 2018, as compared with 1,032 members at December 31, 2017. The billings presented below are administered on behalf of the members; however, the associated receivables and payables are presented net in PJM's Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income. The only billings included in PJM's consolidated financial statements are PJM Scheduling, System Control and Dispatch, AC[2] Costs, PJM Settlement and FERC annual charge recovery. For 2018, 2017 and 2016, settlements processed by PJM under the Tariff, Operating Agreement and Reliability Assurance Agreement, which is a non-generally accepted accounting principles measure, were as follows:

(in millions)	2018 Amount Billed	2017 Amount Billed	2016 Amount Billed
Energy markets	$ 27,645	$ 21,087	$ 19,845
Capacity	10,634	9,103	9,365
Network transmission service	4,745	4,680	4,049
Transmission congestion	1,714	757	997
Transmission enhancement	1,494	1,500	1,429
FTR auction revenues	1,000	904	1,217
Transmission losses (point-to-point)	1,034	849	850
Reactive supply	319	309	301
PJM scheduling, system control and dispatch (operating expense reimbursement, net of stated-rate refunds)	297	293	256
Operating reserves	153	68	136
Regulation market	146	104	85
RTO scheduling, system control and dispatch (transmission owners' control center expenses)	74	73	73
Member default allocation assessments	70	–	–
Black start service	65	72	73
Synchronized reserve market	65	49	48
FERC annual charge recovery	64	61	54
Point-to-point transmission service	61	49	59
Distribution facilities	51	46	46
Generation deactivation	41	21	4
Day-ahead scheduling reserve market	37	34	58
ReliabilityFirst Corporation (RFC)	15	15	15
Reactive services	13	20	2
Miscellaneous	12	7	7
Market Monitoring Unit funding	10	12	12
North American Electric Reliability Corporation (NERC)	10	9	9
MISO transmission expansion planning (MTEP) cost recovery	8	9	11
PJM Settlement	7	7	7
Inadvertent interchange	5	7	10
Load response program	3	3	3
Expansion cost recovery and RTO startup cost recovery	2	2	2
Organization of PJM States, Inc. (OPSI) fees	1	1	1
Consumer Advocates of PJM States, Inc. (CAPS) fees	–	–	–
Advanced second control center (AC[2]) costs	–	–	20
Seams elimination cost assignment	–	21	–
Michigan-Ontario interface phase angle regulators (PAR)	–	–	9
Ramapo PAR facilities	–	–	2
Total	**$ 49,795**	**$ 40,172**	**$ 39,055**

LIQUIDITY AND CAPITAL RESOURCES

Under the stated-rate tariff, PJM collected 29 cents per MWh in 2016. Beginning January 1, 2017, PJM collected 36 cents per MWh under the Company's revised stated-rate tariff, which was approved by FERC on December 22, 2016. The increase to 36 cents per MWh reflects, among other factors, the combination of the previous AC^2 rider charge with the existing stated-rate mechanism. At the end of 2018, the accumulated financial reserve was $17.8 million. PJM is projected to refund approximately $12.0 to $15.0 million to members during 2019, which would result in a projected accumulated financial reserve balance of approximately $18.0 million at December 31, 2019.

In the event PJM's actual expenses are projected to exceed its revenues and financial reserve, PJM is empowered to and would need to file a rate case with FERC.

PJM has a revolving credit agreement with PNC Bank for $150 million, which expires on January 31, 2020, and can be extended automatically through February 28, 2021. The facility is unsecured and is available to fund short-term cash obligations. At December 31, 2018, there were no outstanding borrowings under the revolving credit agreement.

On June 28, 2018, FERC approved PJM's application to refinance the Company's existing bank loan with PNC Bank with a new term loan at Bank of America (BoA). On July 20, 2018, PJM entered into a $20.2 million loan agreement with BoA. The BoA term loan has a seven-year term and is unsecured. At December 31, 2018, the outstanding borrowings under the term loan were $19.5 million. PJM is expected to make $2.9 million of principal payments during 2019.

Under the loan covenants for each facility, PJM is required to provide unaudited financial statements 45 days after each quarter and audited financial statements 120 days after year-end. PJM is in compliance with these covenants.

At December 31, 2018, PJM and PJM Settlement were assigned an Aa2 issuer rating by Moody's Investors Service.

For study and interconnection work performed, PJM obtains liquid collateral from the transmission customer for the estimated costs of the transmission system modifications. PJM's study and interconnection receivables are comprised of billings to transmission customers for services performed under these interconnection service agreements. PJM's study and interconnection payables represent amounts due to the transmission owners for services performed under these interconnection service agreements. PJM held deposits related to study and interconnection activity totaling $105.5 million and $94.3 million at December 31, 2018 and 2017, respectively.

PJM Settlement requires deposits from various parties in connection with services to be performed or as collateral for market activity. PJM Settlement held credit deposits of $1,395.3 million and $1,364.4 million at December 31, 2018 and 2017, respectively. These deposits are maintained in separate cash accounts that are not legally restricted. At December 31, 2018, PJM Settlement also held approximately $2.1 billion in letters of credit as collateral for market activity.

For 2019, PJM's Board of Managers has approved a capital budget of $42 million. These capital expenditures will be used for application replacements, system reliability applications, new products and services for PJM's membership, risk management and interregional coordination. Actual expenditures may differ from these amounts as PJM continues to assess its capital needs.

RISKS AND UNCERTAINTIES

PJM does not provide forecasts of future financial performance. While PJM management is optimistic about the Company's long-term prospects, the following issues and uncertainties, among others, should be considered in evaluating its outlook.

CONTINGENCIES AND RECENT REGULATORY ACTIONS

Third-Party Relationships

PJM engages third parties as suppliers in arrangements to provide services in areas other than core competencies to ensure the service and support of members and timely product development. Although PJM seeks to establish strong working relationships with parties who share PJM's industry goals and have adequate resources to fulfill their responsibilities, these relationships lead to a number of risks. These suppliers may suffer financial or operational difficulties that may affect their performance, which could lead to delays in product development or timely completion of projects. Also, major companies from which PJM purchases components or services may be competitors in other areas, which could affect pricing, new product development or future performance. Finally, difficulties in coordinating activities may lead to gaps in delivery and performance of PJM services.

Credit Risks

PJM bills and collects its operating expenses monthly from its members. Payment of all operating expense bills is due from PJM's members three business days after the month-end bill is issued by PJM, generally within the first two weeks of each month. During both 2018 and 2017, approximately 60 percent of PJM's operating expenses were billed to 33 of its members, each of which either has an investment-grade credit rating according to at least one of the three major rating services or has provided a guaranty from an affiliate with an investment-grade rating. PJM had 1,018 members at year-end 2018 and 1,032 members at year-end 2017. In the event of default of any PJM members, PJM has the right to bill the remaining PJM members a ratable portion of the operating expenses previously billed to the defaulting member.

In accordance with PJM's credit policy, PJM obtains collateral from certain members in order to secure their credit positions. The collateral can be in the form of a cash deposit or letter of credit. Corporate guaranties are also accepted from creditworthy affiliates to fulfill certain credit requirements.

Marginal Line Loss Surplus Payment Reallocation

Between July 17, 2012 and July 20, 2012, 14 companies defaulted on payment obligations totaling $28 million, net of collateral held by PJM. These obligations resulted from reallocations for previously ordered, and provided, refunds made to certain market participants for billing adjustments related to the marginal line loss payment surplus allocation methodology under the Amended and Restated Operating Agreement of PJM (Operating Agreement) and the Tariff, which was ordered by FERC at Docket No. EL08-14 on July 21, 2011. PJM Settlement considered all alternatives to enforce its contract rights from all non-paying companies, and to this end, filed two complaints in civil action alleging breach of contract in the state of Delaware against former members. The first complaint, filed on November 7, 2012, naming City Power Marketing, LLC; Energy Endeavors, LLC; Energy Endeavors, LP; and Crane Energy, LP, seeks the recovery of approximately $23 million owed to PJM Settlement, while the second complaint, filed on December 6, 2012, naming Round Rock Energy, LLC; Round Rock Energy, LP; Huntrise Energy Fund, LLC; and certain named principals individually, seeks the recovery of approximately $4 million.

Several parties affected by FERC's underlying ruling in this matter sought judicial review of FERC's decision in the United States Court of Appeals for the District of Columbia Circuit and, in the ruling issued in August 2013, the court of appeals directed FERC to provide additional support for its determination to recoup the previously ordered refunds. On February 20, 2014, FERC issued an order establishing a schedule for parties to brief the issue of whether it should have ordered recoupment of the refunds. Initial briefs were submitted by several parties, including PJM, on April 7, 2014. Reply briefs were submitted by PJM and several parties on May 6-7, 2014. On November 19, 2015, FERC issued an order affirming its decision ordering recoupment of refunds. On April 7, 2016, FERC issued an order denying a rehearing request. On June 6, 2016, Energy Endeavors, L.P. filed a petition for review of the recoupment order in the United States Court of Appeals for the District of Columbia Circuit. On or about November 7, 2016, FERC filed an unopposed motion and requested the court of appeals to remand the recoupment order. Energy Endeavors, L.P. did not oppose the motion. Accordingly, the court granted FERC's motion and remanded the recoupment order on November 9, 2016, to FERC. The recoupment order is thus before FERC for additional proceedings and, at present, is not final.

The collection actions referenced above remain stayed in the Delaware courts. Under the terms of the PJM Operating Agreement, any payment defaults may be billed and collected from PJM Settlement's other member companies. The outcome of any defaults is not anticipated to have a material adverse effect on PJM's financial position, results of operations or cash flow.

TranSource Matter

On June 23, 2015, TranSource, LLC (TranSource) filed a complaint (Complaint) against PJM with FERC. In the Complaint, TranSource asked FERC to order PJM to provide work papers used to determine the cost estimates for each individual system upgrade specified in System Impact Studies and to suspend all Tariff deadlines otherwise applicable to its Incremental Auction Revenue Rights (IARR) request, pending receipt of the demanded information. On September 24, 2015, FERC issued an order (the September 24 Order) setting the Complaint for a trial-type evidentiary hearing. FERC encouraged the parties to settle their disputes, held the hearing in abeyance and directed appointment of a settlement judge. As directed by FERC, PJM, TranSource and the affected PJM transmission owners (which had intervened in the case), engaged in settlement discussions with the assistance of the assigned settlement judge. On February 10, 2016, while in settlement discussions, TranSource filed an amendment to the Complaint (the Amended Complaint). In the Amended Complaint, TranSource claims it incurred $72 million in lost profit opportunities from monthly IARRs during calendar year 2015 plus continuing losses of $6 million per month going forward. On February 25, 2016, the settlement judge declared an impasse and is expected to issue a report appointing a hearing judge. PJM believes the claim for monetary damages in the Amended Complaint is speculative and without merit because TranSource cannot show that PJM failed to meet any obligation owed to TranSource or that such alleged failure provides any basis to award TranSource monetary relief. Furthermore, as a signatory to the System Impact Study Agreement, TranSource expressly agreed that they are not entitled to consequential damages or lost profits from any asserted delay or non-performance by PJM or the associated transmission owner. PJM sought to dismiss the Amended Complaint with prejudice on procedural and substantive grounds. On March 22, 2016, the Chief Judge granted the motion filed by PJM and the PJM Transmission Owners to hold the proceeding in abeyance pending the Commission's decision on PJM's request for dismissal of the Amended Complaint.

On August 30, 2017, TranSource submitted a motion accepted by the Presiding Judge permitting a TranSource witness to testify at a hearing held in September 2017 regarding additional evaluations conducted based on the late presentation of the documents by one of the Interconnected Transmission Owners. The parties' initial post-hearing briefs were filed in October 2017, with reply briefs filed in November 2017. On January 19, 2018, the Administrative Law Judge issued an initial decision finding that PJM's practices used to process TranSource's Upgrade Requests during the System Impact Study phase were nontransparent; and the impact of the system impact study phase, as applicable to TranSource, was discriminatory under the Federal Power Act and therefore unjust and unreasonable. TranSource was granted limited relief, ordering PJM to restore TranSource's original queue position and refund the $0.15 million paid by TranSource for the study of its upgrade request. All other requests for relief were denied. PJM filed a brief on exceptions on February 20, 2018. A final decision will be issued by the Commission after considering all exception briefs filed. PJM does not believe that this matter will have a material adverse effect on its financial position, results of operations or cash flow.

Credit Matter

On June 22, 2018, PJM members were notified that GreenHat Energy, LLC defaulted on its obligations related to its FTR portfolio, which includes positions applicable to the current planning year as well as the 2019–2020 and 2020–2021 planning years. The default allocation assessments to the non-defaulting members for the period June through December 2018 were $70.3 million and may change to liquidated costs. On January 30, 2019, FERC denied PJM's waiver, requesting to only offer the August 2018 defaulted FTRs for liquidation in the FTR auction conducted in July 2018. PJM has requested FERC to stay implementation of that denial and has requested rehearing and clarification of FERC's denial of PJM's waiver request. If PJM ultimately is required to implement FERC's denial, it may require recalculation and rebillings of past default allocation assessment charges. PJM cannot predict the future default allocation assessments resulting from this default. The aggregate payment default of this member, net of collateral held, will be billed to the non-defaulting members in accordance with the default allocation assessment formula in the PJM Operating Agreement. PJM has implemented two significant FTR credit policy enhancements during 2018. Additional enhancements are anticipated during 2019. The outcome of the default is not anticipated to have a material adverse effect on PJM's financial position, results of operations or cash flow.

PJM 2018

FINANCIAL REPORT

MANAGEMENT’S RESPONSIBILITY FOR FINANCIAL REPORTING

The management of PJM Interconnection, L.L.C. is responsible for the preparation and objectivity of the following consolidated financial statements and for their integrity. These financial statements have been prepared to conform to accounting principles generally accepted in the United States of America and, where required, include amounts that represent management’s best judgments and estimates. PJM’s management is responsible for the preparation of other information in this annual report and for its accuracy and consistency with the financial statements.

PJM has established a system of internal accounting and financial controls and procedures designed to provide reasonable assurance as to the integrity and reliability of its financial reporting. Management continually reviews the effectiveness and efficiency of this system, and takes actions when opportunities for improvement are identified.

This system includes a separate Internal Audit Department, which monitors internal controls and reports directly to the Audit Committee of the Board of Managers. Management views the purpose of internal auditing to be an independent examination and assessment of PJM’s activities related to compliance with policy, procedures and the law, as well as safeguarding of assets. The Audit Committee meets with management, internal auditors and the independent auditors on a regular basis to review financial information, internal controls and the internal audit process.

PJM’s independent auditors, PricewaterhouseCoopers LLP, are engaged to conduct an independent audit of PJM’s consolidated financial statements in accordance with generally accepted auditing standards promulgated by the American Institute of Certified Public Accountants.

Andrew L. Ott
President and Chief Executive Officer

Suzanne S. Daugherty
Senior Vice President, Chief Financial Officer and Treasurer

REPORT OF INDEPENDENT AUDITORS

To Management and the Board of Managers of PJM Interconnection, L.L.C.:

We have audited the accompanying consolidated financial statements of PJM Interconnection, L.L.C. and its subsidiaries, which comprise the consolidated statements of financial position as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income and paid-in capital, retained earnings and accumulated other comprehensive income and of cash flows for each of the three years in the period ended December 31, 2018.

Management's Responsibility for the Consolidated Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on the consolidated 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 consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Company's preparation and fair presentation of the consolidated 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 Company'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 consolidated 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of PJM Interconnection, L.L.C. and its subsidiaries as of December 31, 2018 and 2017, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2018 in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania
March 1, 2019

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

($ in thousands)	2018	2017
Assets		
Current assets:		
Deposits on hand	$ 1,500,794	$ 1,458,744
Operating cash	362,285	308,321
Receivables	39,694	93,815
Study and interconnection receivables	9,457	7,065
Prepaid income taxes	2,481	17,968
Deferred FERC fees	–	2,229
Prepaid expenses and other	9,778	11,337
Note receivable	1,786	2,158
	1,926,275	1,901,637
Non-current assets:		
Fixed assets, net of accumulated depreciation and amortization of $675,440 and $630,398	97,551	113,111
Land	1,420	1,420
Projects in development	35,047	22,710
Deferred recovery of pension and postretirement costs	30,092	38,617
Deferred income taxes, net of valuation allowance	26,431	22,646
Note receivable	550	1,025
Other	22,300	23,172
	213,391	222,701
Total assets	$ 2,139,666	$ 2,124,338
Liabilities, paid-in capital, retained earnings and accumulated other comprehensive income		
Current liabilities:		
Accounts payable and accrued expenses	$ 33,962	$ 29,197
Due to members	404,980	397,396
Study and interconnection payables	9,247	7,134
Accrued payroll and benefits	28,383	30,506
Current portion of long-term debt	2,886	1,317
Current portion of capital lease	1,707	1,631
Deferred regulatory liability	6,393	132
Deferred revenue	3,443	3,387
Postretirement health care benefits liability	1,327	1,241
Other employee benefits	227	164
Deposits	1,500,794	1,458,744
	1,993,349	1,930,849
Non-current liabilities:		
Long-term debt	16,593	19,429
Long-term capital lease	15,067	16,774
Deferred regulatory liability	17,843	9,777
Interest rate swap	325	540
Pension benefits liability	15,415	60,935
Postretirement health care benefits liability	43,459	49,746
Other employee benefits	27,646	27,698
	136,348	184,899
Total liabilities	2,129,697	2,115,748
Commitments and contingencies (Note 13)		
Paid-in capital	722	722
Retained earnings	8,286	7,197
Accumulated other comprehensive income	961	671
Total paid-in capital, retained earnings and accumulated other comprehensive income	9,969	8,590
Total liabilities, paid-in capital, retained earnings and accumulated other comprehensive income	$ 2,139,666	$ 2,124,338

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF INCOME, COMPREHENSIVE INCOME AND PAID-IN CAPITAL, RETAINED EARNINGS AND ACCUMULATED OTHER COMPREHENSIVE INCOME

($ in thousands)	2018	2017	2016
Income			
Operating revenue:			
Service fees	$ 309,864	$ 307,963	$ 275,499
Deferred regulatory income	(27,563)	(15,847)	(2,144)
FERC fees reimbursement	63,972	63,502	56,652
Study and interconnection fees	3,998	3,869	3,521
Membership fees	3,688	3,460	3,352
Other	5,288	3,211	2,426
Total operating revenue	359,247	366,158	339,306
Operating expenses:			
Compensation	137,167	135,402	126,311
FERC fees	63,972	63,502	56,652
Outside services	54,993	56,157	50,227
Depreciation and amortization	45,730	45,708	51,673
Software licenses and fees	19,222	16,699	17,145
Other expenses	13,357	10,170	12,336
Pension benefits	7,909	8,646	10,103
Computer maintenance and office supplies	6,978	9,181	6,924
Study and interconnection services	3,998	3,869	3,521
Lease expenses	1,916	2,169	1,480
Postretirement health care benefits	1,576	1,415	1,255
Total operating expenses	356,818	352,918	337,627
Operating income	2,429	13,240	1,679
Other income (expense):			
Interest income	16,552	5,422	2,992
Interest expense	16,699	5,729	3,590
Total other income (expense)	(147)	(307)	(598)
Income before income taxes	2,282	12,933	1,081
Income tax expense	1,193	12,571	991
Net income	$ 1,089	$ 362	$ 90
Other comprehensive income: Unrealized gain (loss) on securities, net	290	129	(48)
Comprehensive income, net	$ 1,379	$ 491	$ 42
Paid-in capital, retained earnings and accumulated other comprehensive income			
Beginning balance	$ 8,590	$ 8,098	$ 8,056
Net income	1,089	362	90
Other comprehensive income	290	130	(48)
Ending balance	$ 9,969	$ 8,590	$ 8,098

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

($ in thousands)	**2018**	**2017**	**2016**
Cash flows from operating activities:			
Net income	$ 1,089	$ 362	$ 90
Adjustments:			
Depreciation and amortization expense	45,730	45,708	51,673
Deferred income taxes, net of valuation allowance	(3,785)	23,419	(4,694)
Deferred recovery of pension and postretirement costs	8,525	(23,572)	(3,110)
Deferred regulatory liability	27,579	15,846	2,144
Employee benefit expense (less than) greater than funding	(51,710)	24,381	1,692
Net fair value changes related to interest rate swap	(215)	(480)	(424)
Changes in assets and liabilities:			
Decrease (increase) in receivables	54,121	(54,471)	(17,338)
Increase (decrease) in study and interconnection receivables	(2,392)	9,012	5,200
Decrease (increase) in prepaid expenses and other	1,090	(8,097)	(1,469)
Decrease (increase) in deferred FERC fees	2,229	(156)	(2,073)
Decrease (increase) in prepaid income taxes	15,487	(16,554)	(1,369)
Increase (decrease) in accounts payable and accrued expenses	3,271	(1,125)	8,149
Increase (decrease) in study and interconnection payables	2,113	(8,883)	(6,693)
(Decrease) increase in accrued payroll and benefits	(2,123)	4,101	1,213
(Decrease) increase in deferred FERC fee liability	–	–	(2,626)
Increase (decrease) in deferred revenue	56	169	(13)
Refunds to members	(13,252)	(15,239)	–
Net cash (used in) provided by operating activities	87,813	(5,579)	30,352
Cash flows (used in) investing activities:			
Cost of projects in development	(41,013)	(38,324)	(35,968)
Note receivable	847	1,725	(768)
Net cash (used in) investing activities	(40,166)	(36,599)	(36,736)
Cash flows from financing activities:			
Borrowings under line of credit	452,855	734,313	332,054
Repayments under line of credit	(452,855)	(734,313)	(332,054)
Borrowings of long-term debt	20,200	–	–
Repayments of long-term debt	(21,467)	(1,317)	(12,822)
Increase (decrease) in due to members	7,584	(40,909)	240,100
Increase (decrease) in deposits	42,050	(42,906)	358,861
Net cash (used in) provided by financing activities	48,367	(85,132)	586,139
Net (decrease) increase in cash and cash equivalents	96,014	(127,310)	579,755
Cash and cash equivalents balance (including customer deposits), beginning of year	1,767,065	1,894,375	1,314,620
Cash and cash equivalents balance (including customer deposits), end of year	$ 1,863,079	$ 1,767,065	$ 1,894,375
Cash paid during the year for:			
Interest	$ 790	$ 882	$ 1,205
Income taxes	3,635	6,900	7,838
Noncash activity:			
Projects in development additions included in ending accounts payable and accrued expenses	$ 1,494	$ (109)	$ 247

The accompanying notes are an integral part of these consolidated financial statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2018

($ in tables in thousands, unless otherwise noted)

1. COMPANY OVERVIEW

Background

PJM Interconnection, L.L.C. (PJM or the Company) is a Regional Transmission Organization (RTO) responsible for the operation of wholesale electric markets and for centrally dispatching electric systems in the PJM region. PJM's services and the markets PJM operates are subject to regulation by the Federal Energy Regulatory Commission (FERC).

PJM is a limited liability, non-stock company incorporated in the state of Delaware. PJM's Board of Managers is constituted as an independent body, and PJM operates independently from its members.

Nature of Operations

The Company currently coordinates a pooled generating capacity of more than 180,086 megawatts (MW) and operates wholesale electricity markets with more than 1,000 members. PJM enables the delivery of electric power to more than 65 million people in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.

PJM manages a sophisticated regional planning process for generation and transmission expansion to ensure continued reliability of the electric system. Using information technology, PJM provides real-time information to market participants to support their daily transactions and business decision-making. In addition to ensuring the reliable supply of electricity, PJM administers internet-based bid markets in which participants buy and sell day-ahead and spot market energy, financial transmission rights (FTRs), synchronized reserves and regulation services.

PJM Settlement, Inc. (PJM Settlement) is a wholly-owned subsidiary of PJM, organized as a Pennsylvania nonprofit corporation, and is a FERC-regulated entity. PJM Settlement was formed to handle all of the credit, billing and settlement functions for PJM's members' transactions in the PJM markets and for transmission service. PJM Settlement acts as a counterparty to members' pool transactions in the PJM markets. For the pool transactions in the PJM markets, flash title passes through PJM Settlement immediately prior to passing to the ultimate buyer and seller of the product. This arrangement reinforces PJM's authority to continue to net a member's offsetting financial positions in PJM markets for credit and billing purposes, provides clarity in PJM Settlement's legal standing to pursue collection from a bankrupt member, and complies with FERC's recommendation on credit policy requirements for competitive wholesale electricity markets.

Effective January 1, 2018, PJM completed a reorganization of the Company's unregulated subsidiaries. As part of this reorganization, the newly formed PJM Connext, LLC (PJM Connext) became the parent company to PJM Technologies, Inc. (PJM Tech) and PJM Environmental Services, Inc. (PJM EIS). PJM Connext is a wholly-owned subsidiary of PJM and is not a FERC-regulated entity. PJM Connext was formed to provide service and technology solutions pioneered by PJM to existing and emerging energy markets, system operators and RTOs.

PJM Tech is a wholly-owned subsidiary of PJM Connext and is not a FERC-regulated entity. PJM Tech provides international consulting services including training, program planning and implementation advice regarding development of wholesale electric market design and market rules.

PJM EIS is a wholly-owned subsidiary of PJM Connext formed to provide environmental and emissions attributes reporting and tracking services to its subscribers in support of renewable portfolio standards and other disclosure requirements that may be implemented by governmental agencies. PJM EIS is not a FERC-regulated entity.

Tariff Cost Recovery

PJM recovers its administrative costs through a stated-rate mechanism under the Company's Open Access Transmission Tariff (Tariff).

During 2016, PJM recovered costs through three elements approved under the Tariff. The first element was a composite rate, included in PJM stated-rate revenues. The composite rate was 29 cents per megawatt-hour (MWh). The second element was a rider for the Advanced Second Control Center (AC^2). The Tariff establishes a specific mechanism for PJM to collect from its members the actual costs to construct and operate AC^2 through a formula rate set forth in a separate schedule in the Tariff. The recovery was capped at the capitalized investment costs and operating costs of AC^2. The third element included in PJM stated-rate revenues provided for accumulation of a financial reserve and subsequent refunds to PJM's members, if applicable. See further discussion of the Company's Deferred Regulatory Liability in Footnote 2.

On October 31, 2016, PJM filed a rate revision proposal with FERC requesting revisions to the Tariff to extend and update the Company's stated-rate mechanism for recovering its administrative costs of serving as a RTO. This application, which was approved on December 22, 2016, and took effect on January 1, 2017, combined the previous AC^2 rider charge with the existing composite stated-rate mechanism and increased the resulting composite stated-rate to 36 cents per MWh effective for 2017 and 2018. Starting in 2019, the composite stated-rate will increase by 2.5 percent each year on the first day of each of the next five calendar years. The composite stated-rate will be 41 cents per MWh effective January 1, 2024, and will remain at that level until PJM submits a superseding rate-change filing. No material changes were made to the substance of the Company's reserve and refund rules, and no changes were made to PJM Settlement's formulaic administrative cost recovery structure.

PJM Settlement recovers its administrative costs under a separate schedule under the Tariff.

Summary of Service Fees

	2018	2017	2016
PJM stated-rate revenues	$ 303,344	$ 301,112	$ 248,544
PJM AC^2 rider	–	–	19,632
PJM Settlement revenues	6,520	6,851	7,323
Total service fees	**$ 309,864**	**$ 307,963**	**$ 275,499**

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND SELECTED FINANCIAL INFORMATION

Adoption of New Accounting Standards

Revenue Recognition

In May 2014, the Financial Accounting Standards Board (FASB) issued authoritative guidance to provide a single, comprehensive revenue recognition model for contracts with customers. The guidance contains principles that the Company will apply to determine the measurement and timing of revenue recognition. PJM adopted this guidance on January 1, 2019, which is effective for annual reporting periods beginning after December 15, 2018. PJM is adopting the guidance utilizing a modified retrospective transition method.

The Company has reviewed its revenue recognition policies to ensure compliance with the requirements of the guidance and has determined adoption did not have a material impact on current revenue recognition policies. PJM's operating revenues are derived primarily from recovery of PJM and PJM Settlement administrative costs under the Tariff, with no defined contractual term. Under the new guidance, revenue is to be recognized when performance obligations are satisfied. PJM historically recognized operating revenue as services were provided, recognizing performance obligation amounts both billed and unbilled under PJM and PJM Settlement's Tariff rate schedules. This practice is consistent with the new revenue guidance.

Under the standard, PJM is required to provide more comprehensive revenue disclosures to allow financial statement users to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. As a result, PJM's revenue disclosures will include disaggregation of service fee revenues by subsidiary Schedule as defined in Schedule 9 of the Tariff. PJM will also disclose the opening and closing balances of membership fees and revenue recognized during the period related to membership fees. Membership fees, which are billed and collected in advance of the year for which they apply and amortized ratably over the related annual membership period, meet the definition of contract liabilities resulting from contracts with customers. Accounts receivable, broken out between billed and unbilled and which were previously disclosed annually, will be disclosed quarterly.

Pension and Other Postretirement Benefits

In August 2018, the FASB amended its authoritative guidance on the disclosures required for employers that sponsor defined benefit pension or postretirement plans. The amended guidance removes several disclosures the FASB deemed unnecessary while also adding new disclosure requirements. For PJM, the disclosure of the effects of a one-percentage-point change in assumed heath care cost trend rates on the postretirement benefit obligation will no longer be required. The new disclosure requirements are not applicable for PJM.
The amended guidance is effective for annual periods ending after December 15, 2021, with early adoption permitted. PJM adopted this disclosure guidance at December 31, 2018. Adoption of the amended guidance does not affect the Company's Consolidated Statements of Financial Position; Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income; and the Consolidated Statements of Cash Flows.

Accounting Standards Not Yet Adopted

Leases

In February 2016, the FASB issued new guidance related to lease accounting. The key objective of the new standard is to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Lessees will need to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). For income statement purposes, a dual model has been retained, with leases to be designated as operating leases or finance leases. Expenses will be recognized on a straight-line basis for operating leases, and a front-loaded basis for finance leases. The new standard is effective for periods beginning after December 15, 2019, with early adoption permitted. The new standard must be adopted using a modified retrospective transition and provides for certain practical expedients. The Company is currently evaluating the effect of the new standard on the Company's Consolidated Statements of Financial Position; Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income; and the Consolidated Statements of Cash Flows.

Pension and Other Postretirement Benefits

In March 2017, the FASB amended its authoritative guidance on the presentation of net periodic pension and postretirement benefit cost. The guidance requires the service cost component of net periodic benefit cost to be presented separately from the other components of net periodic benefit cost in the Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income. The guidance also provides that only the service cost component of pension and other postretirement benefit cost is eligible for capitalization. The guidance is effective for annual periods beginning after December 15, 2018, and interim reporting periods beginning after December 15, 2019. Adoption of the requirements of this guidance is not expected to materially affect the Company's Statements of Financial Position; Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income; and the Consolidated Statements of Cash Flow.

Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB amended its authoritative guidance related to the classification and measurement of financial instruments. The guidance revises an entity's accounting related to the classification and measurement of investments in equity securities and the presentation of certain fair value changes for financial liabilities measured at fair value. The guidance also amends certain disclosure requirements associated with the fair value of financial instruments. The new standard is effective for periods beginning after December 15, 2018, with early adoption permitted. The Company is currently evaluating the effect of the new standard on the Company's Consolidated Statements of Financial Position; Consolidated Statements of Income; Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income; and the Consolidated Statements of Cash Flows.

Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements have been prepared on an accrual basis in accordance with generally accepted accounting principles (GAAP) in the United States of America and include the accounts of PJM Interconnection, L.L.C. and its wholly-owned subsidiaries (collectively referred to herein as PJM or the Company). All intercompany transactions and balances have been eliminated.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying disclosures. The following accounting policies are particularly important to PJM's financial position or results of operations, and some require estimates or other judgments of matters of uncertainty. Changes in the estimates or other judgments included within these accounting policies could result in a significant change to the financial statements. These estimates are based on management's best knowledge of current events and actions the Company may undertake in the future.

Net Presentation of Member Activity

The Company has determined that although PJM has flash title to pooled transactions through its wholly-owned subsidiary, PJM Settlement, all activity for which PJM Settlement is the central counterparty should be recorded on a net basis. The Company's determination is based on these facts: (1) the member company, not PJM Settlement, is the primary obligor in each transaction; (2) PJM Settlement earns a fixed amount per transaction; (3) and, the member company has the credit risk, not PJM Settlement. As such, the Company presents member activity for which PJM Settlement is the central counterparty, including accounts receivable, accounts payable, FTRs, and revenue and expense, on a net basis in its consolidated financial statements.

Lease Transactions

The Company accounts for lease transactions as either capital leases or operating leases, depending on the terms of the underlying lease agreements.

Assets leased under a capital lease are recorded at cost, which is the net present value of the future lease payments. Such assets are included in fixed assets in the Company's Consolidated Statements of Financial Position and depreciated using the straight-line method over the shorter of the lease term or estimated useful lives. The aggregate lease payments are recorded as a capital lease obligation, net of interest charges as determined by the excess of lease payments over the cost of the leased asset. This implicit interest cost is charged to expense over the lease term using the effective interest rate method.

The lease payments under an operating lease are recognized as current expenses on an accrual basis over the term of the lease agreement.

Study and Interconnection Activity

Under the Tariff, PJM's transmission provider role is to direct the operation and coordinate the maintenance of the transmission system and indicate, based on studies conducted by PJM, necessary enhancements or modifications to the transmission system. The modifications that are performed on the transmission system, such as network upgrades and generation additions, are conducted principally by third-party vendors at the request of transmission customers. In its system planning capacity as transmission service provider, PJM provides billing and collection services in the Interconnection Service Agreement process. Billings and collections by PJM for work it performs on behalf of the counterparties to the specific interconnection agreements are reported on a net basis in the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income.

Cash Equivalents

Highly liquid investments with maturities of three months or less when purchased are considered cash equivalents.

Concentration of Credit Risk

Financial instruments that subject PJM to credit risk consist primarily of accounts receivable relating to monthly service fee billings. As provided in PJM's Operating Agreement, members are required either to maintain approved credit ratings or to post specified financial security to obtain credit within the PJM markets. During both 2018 and 2017, approximately 60 percent of PJM's operating expenses were billed to 33 of its members, each of which either has an investment-grade credit rating according to at least one of the three major rating services or has provided a guaranty from an affiliate with an investment-grade rating. PJM had 1,018 members at year-end 2018 and 1,032 members at year-end 2017.

Under the terms of the PJM Operating Agreement, any payment defaults may be billed to and collected from PJM's other member companies.

Fixed Asset Capitalization

PJM's fixed assets comprise principally software and capitalized software development costs, leasehold improvements, computer hardware and buildings. The costs incurred to acquire and develop computer software for internal use, including financing costs, are capitalized. However, costs incurred prior to the determination of feasibility of developed software and costs incurred following the in-service date of developed software are expensed. Fixed assets are depreciated or amortized using the straight-line method over the useful lives of the assets as follows:

Software and capitalized software development costs	3 to 10 years
Computer hardware	3 to 5 years
Vehicles	5 years
Furniture and fixtures	10 years
Building and leasehold improvements	10 to 15 years
Buildings	25 years

Deferred Recovery of Pension and Postretirement Costs

The Company recognizes the funding status of the projected benefit obligation (PBO) of its defined benefit pension plan and other postretirement employee benefit plan as liabilities in the Consolidated Statements of Financial Position. The PBO represents the actuarial present value of benefits attributable to employee service rendered to date, including the effects of estimated future salary increases. At December 31, 2018, in addition to recording the underfunded PBO as a liability, PJM recorded a regulatory asset to reflect the anticipated future recovery of the amounts expected to be funded in the future through the Company's rate structure. This regulatory asset, which will be amortized each quarter as the net periodic benefit cost of the underfunded liability is recognized, was $30.1 million and $38.6 million at December 31, 2018 and 2017, respectively.

Deferred FERC Fees and Deferred FERC Fee Asset/Liability

FERC charges an annual assessment to all public utilities based on kilowatt-hours of interstate transmission service provided. PJM recovers from its members the annual charges from FERC. At December 31, 2018, PJM had a $0.1 million deferred FERC fee liability that resulted from over-collections during 2018 and will be netted into amounts billed to PJM's members during 2019. At December 31, 2017, PJM had a $2.2 million deferred FERC fee asset. This asset represented the difference between amounts collected from PJM members and amounts ultimately assessed by FERC during the year and is a factor considered in determining FERC fee charges billed to PJM members during the subsequent year.

Deferred Regulatory Liability

PJM recovers as service fees its administrative costs under its stated-rate tariff.

The stated-rate tariff provides for the accumulation of a financial reserve. PJM is permitted to maintain a reserve as a deferred regulatory liability in an amount up to 6 percent of its annual stated-rate revenues, except that beginning for 2020 and every third year thereafter, the financial reserve must be reduced to 2 percent of annual stated-rate revenues. The amount accumulated under the financial reserve provisions is classified as a non-current liability in the Company's Consolidated Statements of Financial Position. On a quarterly basis, PJM refunds the deferred regulatory liability balance in excess of the permitted financial reserve for the previous quarter. The quarterly refund rate is established after the financial close of each quarter, and refunds are distributed to the members on a prospective basis in the following quarter. During calendar year 2018 and calendar year 2017, PJM made refunds of $13.3 million and $15.2 million, respectively. For calendar year 2016, PJM did not make any refunds.

Any under or over refund amounts will be reflected in the deferred regulatory liability activity in the following quarter.

No material changes were made to the substance of the Company's reserve and refund rules as a result of the October 31, 2016, rate revision proposal filed with FERC, which was approved on December 22, 2016, and effective January 1, 2017.

For PJM Settlement, the deferred regulatory liability is defined in its rate schedule in the Tariff and is equal to revenues collected in excess of accrual-basis expenses. This balance is refunded quarterly. The quarterly refund rate is established after the financial close of each quarter, and refunds are distributed to the members on a prospective basis in the following quarter. The PJM Settlement rate schedule does not include a financial reserve element.

PJM recognizes deferred regulatory income in the revenue section of the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income for the amount by which service fee revenues pursuant to the rate schedules differ from applicable expenses in the reporting period. The amount by which cumulative revenues under the rate schedules exceed cumulative expenses and refunds is reported as a deferred regulatory liability in the Consolidated Statements of Financial Position. In circumstances in which revenues are less than expenses, PJM reduces the deferred regulatory liability with an offset to deferred regulatory income.

At December 31, 2018 and 2017, the deferred regulatory liability was $24.2 million and $9.9 million, respectively. At December 31, 2018, the current portion of the deferred regulatory liability was $6.4 million representing PJM and PJM Settlement's expected refunds to members during the first quarter of 2019. At December 31, 2017, the current portion of the deferred regulatory liability was $0.1 million, which was refunded to members by PJM Settlement during the first quarter of 2018. The non-current portion of the deferred regulatory liability of $17.8 million and $9.8 million represents the amount of PJM's reserve at December 31, 2018 and 2017, respectively.

Deferred Revenue

PJM membership fees, which are billed and collected in advance of the year for which they apply, are amortized ratably over the related annual membership period.

Deposits

At December 31, 2018, the deposits balance was comprised of $105.5 million received for study and interconnection fees and $1,395.3 million for customer credit. At the end of 2017, PJM held deposits of $94.3 million for study and interconnection fees and $1,364.4 million for customer credit. These deposits are maintained in separate cash accounts that are not legally restricted.

Income Tax Accounting

PJM has elected to be taxed as a corporation for both federal and state income tax purposes. PJM and its subsidiaries file a consolidated federal income tax return. The consolidated financial statements include prepaid income taxes, accrued income taxes and deferred income taxes. Prepaid income taxes relate to federal and state overpayments on deposit with taxing authorities. These overpayments will be applied to future federal and state income tax liabilities. Deferred income taxes represent the temporary differences between the Company's financial statement basis and tax basis in existing assets and liabilities measured using presently enacted tax rates. A valuation allowance has been provided against certain deferred tax assets for which management has concluded it is more likely than not the Company will be unable to recognize the income tax benefit associated with those future tax deductions.

Fair Values of Financial Instruments

The carrying amounts reported in the Consolidated Statements of Financial Position for current financial assets and liabilities generally approximate their fair values.

Benefit Plan Accounting

PJM accrues the costs of providing future employee benefits based on assumptions made regarding the valuation of benefit obligations and performance of plan assets. Delayed recognition of differences between actual results and those assumed allows for a relatively even recognition of the effects of changes in benefit obligations and plan performance over the working lives of the employees who benefit under the plans.

In addition to recognizing the underfunded or overfunded PBO of a defined benefit pension plan as an asset or liability in the Consolidated Statements of Financial Position, PJM recognizes annual changes in gains or losses, prior service costs or other credits that have otherwise not been recognized as a part of the liability for pension benefits in the Consolidated Statements of Financial Position. A corresponding regulatory asset, deferred recovery of pension and postretirement costs, has been recognized as a non-current asset in the Consolidated Statements of Financial Position.

PJM's selection of the discount rate, health care cost trend rate and expected rate of return on pension assets is based on its review of available current, historical and projected rates, as applicable.

Derivatives

PJM has one interest rate swap that qualifies as a derivative instrument. The Company accounts for this derivative as either an asset or liability at fair value in the Consolidated Statements of Financial Position with changes in fair value recorded through earnings. Refer to Footnote 8 for additional details related to PJM's interest rate swap.

An FTR is a financial instrument that enables PJM market participants to reduce their congestion-related price risk when delivering or selling energy on the grid. PJM Settlement is neither the buyer nor the seller of FTRs, but as FTR auctions clear, PJM Settlement is temporarily the counterparty to both the FTR buyer and FTR seller. Refer to Footnote 9 for additional details related to FTR derivative disclosures.

Revenue Recognition

PJM recognizes as revenue amounts both billed and unbilled under PJM and PJM Settlement's Tariff rate schedules.

Revenues recorded as study and interconnection fees arise from billing and collection services in the interconnection service agreement process performed by PJM. These revenues are presented on a gross basis in the Company's Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income and are offset directly by the corresponding interconnection expenses.

PJM Connext, PJM Tech and PJM EIS recognize as revenues amounts both billed and unbilled.

Subsequent Events

PJM has performed an evaluation of subsequent events through March 1, 2019, which is the date the financial statements were issued.

3. ACCOUNTS RECEIVABLE

PJM's receivables at December 31, 2018 and 2017, consisted of the following:

		2018		2017
Billed:				
Membership fees	$	135	$	28
PJM EIS		467		319
PJM Connext		73		–
PJM Tech		70		811
		745		1,158
Unbilled:				
Service fees		22,151		30,923
Default allocation assessment		18,682		–
FTR excess congestion		(2,052)		61,569
PJM EIS		168		165
		38,949		92,657
Total accounts receivable	**$**	**39,694**	**$**	**93,815**

PJM's member companies are billed on a monthly basis for recovery of PJM's and PJM Settlement's administrative costs under the Tariff.

All study and interconnection receivables were billed at December 31, 2018 and 2017.

4. FIXED ASSETS

A summary of fixed assets by classification as of December 31, 2018 and 2017, follows:

		2018		2017
Buildings	$	18,812	$	18,812
Leasehold improvements		60,494		57,550
Capitalized lease		25,889		25,889
Software development		530,133		510,694
Computer hardware		131,694		124,622
Furniture and fixtures		5,787		5,787
Vehicles		182		155
Subtotal		772,991		743,509
Accumulated depreciation and amortization		(675,440)		(630,398)
Total fixed assets, net of accumulated depreciation and amortization	**$**	**97,551**	**$**	**113,111**

Amortization of software development costs for the years ended December 31, 2018, 2017 and 2016, were $31.5 million, $32.6 million and $38.6 million, respectively.

Amortization of capitalized lease costs was $1.7 million for each of the years ended December 31, 2018, 2017 and 2016.

Total interest costs incurred for the years ended December 31, 2018, 2017 and 2016, were $17.4 million, $6.5 million and $4.3 million, respectively. For the years ended December 31, 2018, 2017 and 2016, interest capitalized for assets under development was $0.7 million, $0.8 million and $0.7 million, respectively.

5. NOTE RECEIVABLE

On March 21, 2008, FERC approved a settlement to restructure the relationship between PJM and PJM's former Market Monitoring Unit (MMU). As part of the settlement, the MMU and its functions transitioned from being an internal PJM department to an external firm, Monitoring Analytics, LLC (MA). MA operates independent of PJM management and the Board of Managers. In order to facilitate the externalization of this function and as part of the settlement agreement approved by FERC, PJM entered into a revolving loan agreement with MA during March 2008. The original revolving loan agreement was extended in November 2018 to March 31, 2026.

The purpose of the PJM revolving loan to MA is to fund capital needs associated with MA's technology systems and working capital needs related to MA's responsibilities per Attachment M of the Tariff to monitor the markets administered by PJM. The revolving loan has a capacity of $11 million and is secured by MA's accounts receivable and future collections of accounts receivable. At December 31, 2018 and 2017, the interest rate on the revolving loan agreement between PJM and MA was 5.50 percent and 4.50 percent, respectively. The interest rate on all loan advances is equal to the PNC Bank Base Rate. The PNC Bank Base Rate is the highest of (A) the Prime Rate, (B) the sum of the Federal Funds Rate plus 50 basis points (0.50 percent), or (C) the sum of the Daily London Interbank Offered Rate (LIBOR) plus 100 basis points (1.0 percent).

At December 31, 2018 and 2017, the outstanding balance due from MA recorded by PJM as a note receivable was $2.3 million and $3.2 million, respectively. At December 31, 2018 and 2017, the current portion of the note receivable was $1.8 million and $2.2 million, respectively. The current balance at December 31, 2018, represents the amount to be repaid during 2019. The non-current portion of the note receivable was $0.5 million at December 31, 2018, and $1.0 million at December 31, 2017.

6. SHORT-TERM DEBT

PNC Revolving Line of Credit

On March 1, 2018, PJM amended and restated the existing revolving credit agreement with PNC Bank (PNC), increasing the capacity from $100 million to $150 million. PJM received approval from FERC to continue to borrow under this amended facility and to increase the unsecured promissory note on January 19, 2018. The facility expires on January 31, 2020, and can be extended automatically through February 28, 2021, with FERC authorization. The revolving line of credit is unsecured and available to fund short-term cash obligations.

Under the loan covenants for the revolving credit agreement, PJM is required to meet certain financial and non-financial covenants. PJM was in compliance with these covenants as of December 31, 2018. At December 31, 2018 and 2017, there were no amounts outstanding under the revolving credit agreement. The interest rate on borrowings under this revolving credit agreement is based on the 30-day LIBOR. At December 31, 2018, the interest rate was 3.127 percent.

The amended facility also has a commitment fee of 6.25 basis points on the unused balance. This fee is calculated daily and paid quarterly.

7. LONG-TERM DEBT

Bank of America Bank Loan Agreement

On June 28, 2018, FERC approved PJM's request to refinance the Company's bank loan with PNC through a new term loan from Bank of America (BoA). On July 20, 2018, PJM entered into a $20.2 million loan agreement with BoA. The BoA term loan has a seven-year term and is unsecured.

As of December 31, 2018, the outstanding borrowings under the term loan were $19.5 million. As defined in the loan agreement, the term loan bears interest at a rate per annum equal to the LIBOR rate plus a spread of 65 basis points (0.65 percent). As of December 31, 2018, the interest rate was 2.99 percent.

Under the loan agreement, PJM is required to meet certain financial and non-financial covenants. PJM was in compliance with these covenants as of December 31, 2018.

Repayments of principal under the BoA Bank Loan Agreement are scheduled as follows:

Year ending December 31,		
2019	$	2,886
2020		2,886
2021		2,886
2022		2,886
2023		2,886
Remaining		5,049
Total	**$**	**19,479**

PNC Bank Loan Agreement

On March 31, 2009, FERC approved PJM's application to enter into a $35 million loan agreement with PNC. Closing on this facility occurred on April 30, 2009. On August 22, 2013, FERC approved PJM's application to amend and refinance at a lower interest rate the original loan with PNC. The closing on this facility occurred on September 5, 2013, and extended the maturity of the amended loan to September 1, 2021.

In conjunction with the establishment of the term loan with BoA, on July 19, 2018, PJM terminated the existing bank loan with PNC. PJM made a payment of $20.1 million to PNC in order to extinguish the PNC term loan and terminate the associated interest rate swap. For accounting purposes, this transaction was treated as an extinguishment of debt.

As of December 31, 2017, outstanding borrowings under this loan were $20.7 million. As defined in the loan agreement, the interest rate was based on the LIBOR in effect at each monthly reset date plus a spread of 75 basis points. As of December 31, 2017, the interest rate was 2.11 percent.

8. DERIVATIVE FINANCIAL INSTRUMENT – INTEREST RATE SWAP

The Company is exposed to certain risks relating to ongoing business operations, including the effect of changes in interest rates. PJM manages interest rate risk on a portion of its variable rate debt using an interest rate swap, which is a derivative financial instrument.

To manage interest rate risk associated with the $20.2 million loan agreement with BoA, the Company entered into an interest rate swap agreement with BoA effective August 1, 2018. The interest rate swap agreement effectively fixes the interest payments of the Company's floating rate debt instrument at a rate of 3.62 percent. The term of the interest rate swap matches the term of the loan.

To manage interest rate risk associated with the amended loan agreement of $26.3 million with PNC, the Company entered into an interest rate swap agreement with PNC on September 5, 2013. The interest rate swap agreement effectively fixed the interest payments on the Company's floating rate debt. The April 2016 amendment of the loan agreement together with the interest rate swap reduced the effective interest rate on the outstanding principal amount of the loan from 3.95 percent to 3.60 percent. The term of the interest rate swap matched the term of the loan. PJM terminated the PNC interest rate swap agreement on July 19, 2018. Termination costs incurred by PJM were immaterial.

While PJM has entered into an economic hedge of its interest rate, the Company has elected not to designate this instrument as a cash flow or fair value hedge for accounting purposes. Accordingly, the interest rate swap is carried at fair value in the Consolidated Statements of Financial Position with changes in fair value recorded through earnings. At December 31, 2018 and 2017, the fair value of the swaps was a liability of $0.3 million and $0.5 million, respectively.

The amount of the derivative gains PJM recognized as interest expense in the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income is provided in the table below:

		2018		**2017**		**2016**
Unrealized and realized market-to-market gains	$	215	$	480	$	424
Total net market-to-market gains	$	215	$	480	$	424

The Company does not hold or issue financial instruments for speculative or trading purposes for its own account.

9. DERIVATIVE FINANCIAL INSTRUMENT – FTRS

PJM Settlement is the central counterparty to member's pool transactions. Accordingly, PJM Settlement has flash title pass through it when markets settle and as charges/credits are assessed on pool transactions.

An FTR is a financial instrument that enables market participants to reduce their congestion-related price risk when delivering or selling energy on the grid. It provides an economic hedging mechanism against congestion charges that can be transacted by members separately from transmission service. Ultimately, PJM Settlement is neither the buyer nor seller of FTRs but, as FTR auctions clear, PJM Settlement is temporarily the counterparty to both the FTR Buyer and the FTR Seller. For reporting purposes, these positions net to zero in the Consolidated Statements of Financial Position and the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income and do not represent a credit risk to PJM. However, because FTRs have ongoing open positions at period end, the Company is disclosing the fair value of these instruments, even though they do not present a direct credit risk to PJM.

The gross fair value of both the FTR assets and FTR liabilities as of December 31, 2018, was $343 million. A total of 281 members are FTR holders related to a total of 2.9 million MWh. As of December 31, 2018, PJM held $1.6 billion in collateral related to these FTR transactions. The collateral is based on the calculated net value of the positions held in each member's FTR portfolio. The collateral can be in the form of cash or a letter of credit.

Roll-forward of FTR activity for the years ended December 31, 2018 and 2017, consisted of the following:

($ in millions)		
Balance at January 1, 2018	$	394
Auction additions		592
Settlement and change in fair value		(643)
Balance at December 31, 2018	$	343
Balance at January 1, 2017	$	408
Auction additions		1,058
Settlement and change in fair value		(1,072)
Balance at December 31, 2017	$	394

10. FAIR VALUE DISCLOSURES

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). In determining fair values, PJM utilizes market data or assumptions that market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. The authoritative guidance pertaining to fair value establishes a fair value hierarchy that prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement). The three levels of the fair value hierarchy defined by this guidance are as follows:

Level 1 – Quoted prices are available in active markets for identical assets or liabilities as of the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis.

Level 2 – Pricing inputs are other-than-quoted prices in active markets included in Level 1, which are directly or indirectly observable as of the reporting date. Level 2 includes those financial instruments that are valued using broker quotes in liquid markets and other observable pricing data. Level 2 also includes those financial instruments that are valued using internally developed methodologies that have been corroborated by observable market data through correlation or by other means. Significant assumptions are observable in the marketplace throughout the full term of the instrument, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Level 3 – Pricing inputs include significant inputs that are generally less observable than those from objective sources.

PJM utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. PJM is able to classify fair value balances based on the observability of the inputs. In accordance with the authoritative guidance, financial assets and liabilities are classified in their entirety based on the lowest level of observability for an input that is significant to the fair value measurement. PJM's assessment of the significance of a particular input to the fair value measurement requires the exercise of judgment and may affect the valuation of fair value assets and liabilities and their placement within the fair value hierarchy levels.

The following table presents PJM's cash and cash equivalents as well as financial assets and liabilities that were accounted for at fair value on a recurring basis as of December 31, 2018 and 2017, by level within the fair value hierarchy.

($ in millions)			**December 31, 2018**						**December 31, 2017**	
		Level 1		**Level 2**		**Level 3**		**Carrying Value**		**Carrying Value**
Cash and cash equivalents	$	1,863	$	–	$	–	$	1,863	$	1,767
Deposit liabilities		1,501		–		–		1,501		1,458
Derivative liabilities		1		–		–		1		1

The fair value of FTR assets and liabilities for which PJM Settlement is the counterparty for an instant are determined on a recurring basis based on Level 3 inputs within the fair value hierarchy. The valuation model used is based on a three-year weighted average of historical location marginal prices by month by node. The model also calculates separate historic values for on-peak, off-peak and 24-hour FTRs. For reporting purposes, these positions net to zero in the Consolidated Statements of Financial Position and the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income and are not presented in the table above.

11. INCOME TAXES

Income tax expense shown on the Consolidated Statements of Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income consisted of the following:

	2018	2017	2016
Federal income taxes			
Current	$ 4,193	$ (11,843)	$ 5,107
Deferred	(3,430)	20,462	(3,956)
Change in valuation allowance	10	357	(315)
	773	8,976	836
State income taxes			
Current	1,538	129	1,054
Deferred	(1,118)	2,124	(848)
Change in valuation allowance	–	1,342	(51)
	420	3,595	155
Income tax expense	**$ 1,193**	**$ 12,571**	**$ 991**

On December 22, 2017, the President of the United States signed the Tax Cuts and Jobs Act into legislation. Within the 2017 income tax provision, PJM was required to revalue the Company's deferred tax assets and liabilities to reflect the corporate income tax rate reduction by the Tax Cuts and Jobs Act. The result of the revaluation, after accounting for the acceleration of various employee-related expenses, was $8.1 million.

The effects of temporary differences giving rise to deferred income tax assets at December 31, 2018 and 2017, consisted of the following:

	2018	2017
Deferred tax liabilities		
Deferred pension and postretirement costs	$ (8,700)	$ (11,164)
	(8,700)	(11,164)
Deferred tax assets		
Postretirement health care	12,948	14,741
Net operating loss carryforwards	6,687	8,087
Pension	6,565	5,217
Accrued expenses	6,296	7,739
Deferred regulatory liability	5,262	2,871
Fixed assets	811	(1,461)
	38,569	37,194
Net deferred income tax assets	29,869	26,030
Valuation allowance	(3,438)	(3,384)
Deferred income tax assets, net	**$ 26,431**	**$ 22,646**

The income tax rate on PJM's operating activities differed from the federal statutory rate as follows:

	2018	2017	2016
Income tax expense at the federal statutory rate	$ 479	$ 4,527	$ 379
Income (decrease) resulting from:			
Changes in valuation allowance	10	1,699	(366)
Meals and entertainment	255	427	428
State income taxes, net of federal tax benefit	330	1,074	108
Deferred income tax revaluation for enacted changes in tax law	–	4,839	–
Other	119	5	442
Income tax expense	**$ 1,193**	**$ 12,571**	**$ 991**

PJM has net operating loss carryforwards of $83.4 million for Pennsylvania state tax purposes that begin expiring in 2022. PJM has concluded it is more likely than not, due to enacted statutory restrictions, that certain Pennsylvania net operating loss carry-forwards will expire and, therefore, the Company recorded a $2.1 million valuation allowance against these deferred tax assets and a $1.3 million valuation allowance against certain other deferred tax assets with an indefinite future reversal period.

PJM and its subsidiaries file a U.S. consolidated federal income tax return and consolidated or separate company tax returns in various states, including the state of Pennsylvania. The tax years subsequent to 2014 remain open to examination by the United States Internal Revenue Service and generally the tax years subsequent to 2014 remain open to examination by various state taxing authorities. There are no ongoing audits at this time.

12. BENEFIT PLANS

Pension Plan

PJM sponsors a defined benefit Pension Plan (the plan) that covers all regular full-time employees and part-time employees hired prior to January 1, 2014. Benefits under the plan are based on years of service and the employee's compensation. PJM's funding of the plan is determined according to the funding requirements set forth by the Employee Retirement Income Security Act of 1974 (ERISA). Plan assets are invested primarily in stocks and bonds and are monitored by PJM's Benefits Administration Committee. This plan was closed to new participants beginning January 1, 2014. Employees hired on or after January 1, 2014, are given a supplemental benefit in their 401k savings plan (the savings plan) based on their age and years of service.

Supplemental Executive Retirement Plan

PJM also sponsors a Supplemental Executive Retirement Plan (SERP) to provide certain members of senior management with benefits in excess of normal pension benefits. During 2016, PJM recognized a settlement charge of $1.1 million within the SERP pension expense related to the payment of a lump-sum benefit on July 1, 2016. At December 31, 2018 and 2017, the actuarially computed benefit obligation of the SERP included in the other employee benefits liability amounted to $7.3 million and $7.1 million, respectively. Pension expense for this plan was $1.0 million, $0.8 million and $1.8 million for each of the years ended December 31, 2018, 2017 and 2016, respectively. PJM invested $4.2 million in equity securities in prior years with the intention to use the proceeds to offset future obligations under the SERP. There were no contributions made during the years ended December 31, 2018 and 2017. The investment is included in other non-current assets in the Consolidated Statements of Financial Position at its market value of $1.6 million as of December 31, 2018 and $1.7 million as of December 31, 2017, respectively.

Deferred Compensation Plan

PJM also sponsors a Deferred Compensation Plan to provide an opportunity to certain members of senior management and the PJM Board of Managers to defer a portion of compensation. At December 31, 2018 and 2017, the value of this employee liability amounted to $20.6 million and $20.7 million, respectively. This amount is included in other employee benefits in the Consolidated Statements of Financial Position.

Postretirement Benefits

The Other Postretirement Employee Benefit (OPEB) Plan provides certain health care and other benefits to retired employees and their spouses and dependents. The amount of the pre-65 benefit is dependent upon the employee's years of service at retirement. The amount of post-65 benefit at retirement is dependent upon the employee's age and years of service as of January 1, 2016. The post-65 OPEB Plan was closed to new hires as of January 1, 2010.

The schedules that follow show the changes in the benefit obligations, plan assets and funded status of the respective plans as of December 31, 2018 and 2017, and components of net periodic pension and postretirement health care costs of these plans for the years ended December 31, 2018, 2017 and 2016.

	Pension Benefits				Other Postretirement Benefits	
	Qualified		SERP			
	2018	2017	2018	2017	2018	2017
CHANGE IN BENEFIT OBLIGATION						
Net benefit obligation at beginning of year	$ 248,255	$ 198,951	$ 7,110	$ 4,793	$ 61,096	$ 55,458
Service cost	10,957	9,199	364	283	1,694	1,543
Interest cost	9,014	8,575	272	241	2,279	2,399
Net transfers in/(out)	–	–	–	–	–	–
Plan participants' contributions	–	–	–	–	67	38
Actuarial loss (gain)	(33,356)	36,915	(379)	1,867	(7,798)	2,691
Gross benefits paid	(7,258)	(5,385)	(74)	(74)	(1,211)	(1,033)
Net obligation at end of year	**$ 227,612**	**$ 248,255**	**$ 7,293**	**$ 7,110**	**$ 56,127**	**$ 61,096**

PJM uses a measurement date of December 31 for all of its pension and postretirement benefit plans.

	Pension Benefits				Other Postretirement Benefits	
	Qualified		SERP			
	2018	2017	2018	2017	2018	2017
CHANGE IN PLAN ASSETS						
Fair value of plan assets at beginning of year	$ 187,320	$ 153,845	$ –	$ –	$ 10,109	$ 6,870
Actual return on plan assets	(17,865)	28,060	–	–	(768)	1,240
Employer contributions	50,000	10,800	74	74	3,144	2,994
Plan participants' contributions	–	–	–	–	67	38
Gross benefits paid	(7,258)	(5,385)	(74)	(74)	(1,211)	(1,033)
Adjustment	–	–	–	–	–	–
Fair value of plan assets at end of year	212,197	187,320	–	–	11,341	10,109
Funded status at end of year	(15,415)	(60,935)	(7,293)	(7,110)	(44,786)	(50,987)
Unrecognized net actuarial loss	–	–	–	–	–	–
Unrecognized prior service cost	–	–	–	–	–	–
Unrecognized net transition obligation	–	–	–	–	–	–
Net amount recognized at end of year and amounts recognized in the Statements of Financial Position	**$ (15,415)**	**$ (60,935)**	**$ (7,293)**	**$ (7,110)**	**$ (44,786)**	**$ (50,987)**

During 2018, PJM contributed $50.0 million to its qualified defined benefit pension plan. This contribution resulted in a reduction of the Company's pension liability to $15.4 million at December 31, 2018.

	Pension Benefits				Other Postretirement Benefits	
	Qualified		SERP			
	2018	2017	2018	2017	2018	2017
AMOUNTS RECOGNIZED IN DEFERRED PENSION AND POSTRETIREMENT COSTS:						
Net actuarial loss (gain)	$ 49,646	$ 52,461	$ 2,691	$ 3,419	$ (14,904)	$ (8,624)
Prior service (gain) cost	(15)	(34)	9	16	(7,335)	(8,622)
Total	**$ 49,631**	**$ 52,427**	**$ 2,700**	**$ 3,435**	**$ (22,239)**	**$ (17,246)**

	Pension Benefits				Other Postretirement Benefits	
	Qualified		SERP			
	2018	2017	2018	2017	2018	2017
AMOUNTS RECOGNIZED IN THE STATEMENT OF FINANCIAL POSITION CONSIST OF:						
Current liability	$ –	$ –	$ 227	$ 164	$ 1,327	$ 1,241
Noncurrent liability	15,415	60,935	7,066	6,946	43,459	49,746
Net amount recognized at end of year	**$ 15,415**	**$ 60,935**	**$ 7,293**	**$ 7,110**	**$ 44,786**	**$ 50,987**

At the end of 2018 and 2017, the PBO, the accumulated benefit obligation and the fair value of plan assets for all of PJM's pension and postretirement benefit plans are as follows:

	Pension Benefits				Other Postretirement Benefits	
	Qualified		SERP			
	2018	2017	2018	2017	2018	2017
End of year						
Projected benefit obligation	$ 227,612	$ 248,255	$ 7,293	$ 7,110	$ 56,127	$ 61,096
Accumulated benefit obligation	177,084	188,996	4,664	3,934	–	–
Fair value of plan assets	212,197	187,320	–	–	11,341	10,109

Expected Cash Flows

Information about expected cash flows for the pension and postretirement benefit plans follows:

	Qualified Benefits	SERP Benefits	Other Postretirement Benefits
Employer contributions			
Expected employer contributions for 2019 to plan trusts	$ –	$ 227	$ 1,327
Expected employer contributions in form of direct benefit payments for 2019	–	73	3,114
Expected benefit payments			
2019	6,703	227	1,327
2020	7,132	377	1,482
2021	7,823	426	1,645
2022	9,017	631	1,823
2023	9,961	623	2,025
2024–2029	65,189	4,983	13,768

The table above reflects the benefits expected to be paid from the plan or from PJM's assets for PJM's share of the benefit cost. The participants' share of the cost, which is funded by participant contributions to the plan, is not included in this table. Expected contributions to plan trusts reflect expected amounts to be contributed by PJM to the fund.

	Pension Benefits						Other Postretirement Benefits		
	Qualified			SERP					
	2018	2017	2016	2018	2017	2016	2018	2017	2016
COMPONENT OF NET PERIODIC BENEFIT COST									
Service cost	$ 10,957	$ 9,199	$ 8,981	$ 364	$ 283	$ 266	$ 1,694	$ 1,543	$ 1,473
Interest cost	9,014	8,575	8,045	272	241	234	2,279	2,399	2,283
Expected return on assets	(14,880)	(10,602)	(9,676)	–	–	–	(667)	(464)	(311)
Prior service cost/ (gain)	(18)	(18)	(18)	7	7	7	(1,287)	(1,287)	(1,287)
Settlement charge	–	–	–	–	–	1,091	–	–	–
Actuarial loss/(gain)	2,205	1,125	1,398	348	224	177	(83)	(388)	(501)
Total net periodic benefit cost	**$ 7,278**	**$ 8,279**	**$ 8,730**	**$ 991**	**$ 755**	**$ 1,775**	**$ 1,936**	**$ 1,803**	**$ 1,657**

A discount rate of 3.70 percent was used to calculate 2018 pension and postretirement benefit expense.

For each of the years ended December 31, 2018, 2017 and 2016, $0.7 million, $0.8 million and $0.8 million of total pension and postretirement benefits expense were included in capitalized project costs, respectively.

The estimated net loss and prior service costs for PJM's pension plans that will be amortized from deferred recovery of pension and postretirement costs into net periodic benefit cost in 2019 is $2.5 million. The estimated net gain and prior service credits for PJM's postretirement plan that will be amortized from deferred recovery of pension and postretirement costs into net periodic benefit cost is $1.4 million.

The following schedule shows the assumptions used to calculate the pension and postretirement benefit obligations for the years ended December 31, 2018, 2017 and 2016.

	Pension Benefits			Other Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Discount rate	4.30%	3.70%	4.40%	4.30%	3.70%	4.40%
Expected return on plan assets	6.60%	6.60%	6.75%	6.60%	6.60%	6.75%
Rate of comparison increase	4.50%	4.50%	4.50%	N/A	N/A	N/A
Medical care cost trend rate						
Current (Pre-65)				5.92%	6.17%	6.66%
Current (Post-65)				6.48%	6.93%	7.78%
Ultimate (Pre-65)				4.46%	4.46%	4.46%
Ultimate (Post-65)				4.54%	4.45%	4.45%
Years to ultimate				19	20	21

The expected return on plan assets assumption has been determined based on PJM's investment objectives and is supported by analysis of simulated investment return using capital market assumptions published in Mercer Investment Consulting's Capital Markets Outlook for the plan's target asset mix, net of an adjustment for expense to be paid from the plan assets.

The asset allocation for the PJM pension plan and other postretirement benefits plan at the end of 2018 and 2017, and the target allocation for 2019 by asset category, follows. The fair value of plan assets for the PJM pension plan and other postretirement benefit plans was $223.5 million and $197.4 million at the end of 2018 and 2017, respectively.

Asset Category	Target Allocation	2018	2017
Equity securities	50%–60%	55%	55%
Debt securities	40%–50%	44%	44%
Other	0%–2%	1%	1%
Total	100%	100%	100%

The assets of the PJM pension plan and other postretirement benefit plan are invested to provide a source of retirement income for participants and beneficiaries of the plan. The financial objectives of the plans have been established in conjunction with the comprehensive review of the current and projected financial requirements of the plans. The financial objectives are to maximize assets in order to consistently and materially exceed the accumulated benefit obligation under the plans and to reduce contributions over time.

The assets of the PJM pension plan and other postretirement benefit plan are invested in accordance with all relevant legislation and regulation in a manner consistent with fiduciary standards of ERISA and other applicable law. Specifically, the investment program includes such safeguards and diversity to which a prudent investor would adhere, and all transactions undertaken on behalf of the plans are in the sole interest of plan participants and their beneficiaries.

Fair Value Measurements

The following table presents PJM's pension and other postretirement benefit plan assets measured at fair value and their respective levels within the fair value hierarchy as of December 31, 2018 and 2017:

As of December 31, 2018 (a)	Level 1	Level 2	Level 3	Carrying Value
Plan assets:				
Cash and cash equivalents	$ 3,327	$ –	$ –	$ 3,327
Commingled funds	–	106,813	–	106,813 (b)
Mutual funds	–	113,398	–	113,398 (c)
Total plan assets	**$ 3,327**	**$ 220,211**	**$ –**	**$ 223,538**

As of December 31, 2017 (a)	Level 1	Level 2	Level 3	Carrying Value
Plan assets:				
Cash and cash equivalents	$ 174	$ –	$ –	$ 174
Commingled funds	–	94,452	–	94,452 (b)
Mutual funds	–	102,803	–	102,803 (c)
Total plan assets	**$ 174**	**$ 197,255**	**$ –**	**$ 197,429**

(a) See Footnote 10 for a description of levels within the fair value hierarchy.
(b) The benefit plans own commingled funds that invest in equity and fixed income securities.
(c) This category predominantly represents diverse issues of domestic, investment-grade fixed income securities.

Valuation Techniques Used to Determine Fair Value

Cash equivalents – Investments with maturities of three months or less when purchased, including certain short-term fixed-income securities, are considered cash equivalents and are included in the recurring fair value measurements hierarchy as Level 1.

Commingled funds – Commingled funds are maintained by investment companies that hold certain investments in accordance with a stated set of fund objectives, which are consistent with PJM's overall investment strategy. The values of the majority of commingled funds are not publicly quoted and must trade through a broker. For equity and fixed-income commingled funds traded through a broker, the fund administrator values the fund using the net asset value per fund share, derived from quoted prices in active markets of the underlying securities. These funds are valued at net asset value (NAV) and have been categorized as Level 2.

Mutual Funds – Mutual funds are pooled instruments that hold certain investments in accordance with a stated set of fund objectives, which are consistent with PJM's overall investment strategy. These funds consist of fixed income, developing markets and indexed securities. Fidelity Investments, the fund manager, monitors prices supplied by pricing services and may use a supplemental price source or change the primary price source of a given security if the portfolio managers challenge an assigned price and Fidelity determines that another price source is considered to be preferable. These funds are valued at NAV and have been categorized as Level 2.

Savings Plan

PJM also sponsors the 401k Plan (savings plan) for all eligible employees of the Company. The savings plan permits employees to contribute up to 75 percent of their gross compensation on a pretax basis, subject to limitations as described in the savings plan. PJM makes matching contributions equal to 100 percent of the employee's first 5 percent of gross salary contributed. PJM contributions to the savings plan were approximately $4.8 million, $4.5 million and $4.0 million for the years ended December 31, 2018, 2017 and 2016, respectively. This expense is included in compensation in the Consolidated Statements of Income, Comprehensive Income and Paid-in Capital, Retained Earnings and Accumulated Other Comprehensive Income.

13. COMMITMENTS AND CONTINGENCIES

Leases

PJM leases office space under operating leases with various vendors. These leases are non-cancelable and expire during the period from 2019 to 2027.

Future minimum rentals under non-cancelable lease agreements are as follows:

Year ending December 31,	**Operating**	**Capital**
2019	$ 1,281	$ 1,707
2020	1,186	1,782
2021	1,175	1,861
2022	1,148	1,941
2023	788	2,022
Remaining	2,957	7,461
Total	**$ 8,535**	**$ 16,774**

Other Items

Marginal Line Loss Surplus Payment Reallocation

Between July 17, 2012, and July 20, 2012, 14 companies defaulted on payment obligations totaling $28 million, net of collateral held by PJM. These obligations resulted from reallocations for previously ordered, and provided, refunds made to certain market participants for billing adjustments related to the marginal line loss payment surplus allocation methodology under the Amended and Restated Operating Agreement of PJM (Operating Agreement) and the Tariff, which was ordered by FERC at Docket No. EL08-14 on July 21, 2011. PJM Settlement considered all alternatives to enforce its contract rights from all non-paying companies, and to this end, filed two complaints in civil action alleging breach of contract in the state of Delaware against former members. The first complaint, filed on November 7, 2012, naming City Power Marketing, LLC; Energy Endeavors, LLC; Energy Endeavors, LP; and Crane Energy, LP, seeks the recovery of approximately $23 million owed to PJM Settlement, while the second complaint, filed on December 6, 2012, naming Round Rock Energy, LLC; Round Rock Energy, LP; Huntrise Energy Fund, LLC; and certain named principals individually, seeks the recovery of approximately $4 million.

Several parties affected by FERC's underlying ruling in this matter sought judicial review of FERC's decision in the United States Court of Appeals for the District of Columbia Circuit and, in the ruling issued in August 2013, the court of appeals directed FERC to provide additional support for its determination to recoup the previously ordered refunds. On February 20, 2014, FERC issued an order establishing a schedule for parties to brief the issue of whether it should have ordered recoupment of the refunds. Initial briefs were submitted by several parties, including PJM, on April 7, 2014. Reply briefs were submitted by PJM and several parties on May 6-7, 2014. On November 19, 2015, FERC issued an order affirming its decision ordering recoupment of refunds. On April 7, 2016, FERC issued an order denying a rehearing request. On June 6, 2016, Energy Endeavors, L.P. filed a petition for review of the recoupment order in the United States Court of Appeals for the District of Columbia Circuit. On or about November 7, 2016, FERC filed an unopposed motion and requested the court of appeals to remand the recoupment order. Energy Endeavors, L.P. did not oppose the motion. Accordingly, the court granted FERC's motion and remanded the recoupment order on November 9, 2016, to FERC. The recoupment order is thus before FERC for additional proceedings and, at present, is not final.

The collection actions referenced above remain stayed in the Delaware courts. Under the terms of the PJM Operating Agreement, any payment defaults may be billed and collected from PJM Settlement's other member companies. The outcome of any defaults is not anticipated to have a material adverse effect on PJM's financial position, results of operations or cash flow.

TranSource Matter

On June 23, 2015, TranSource, LLC (TranSource) filed a complaint (Complaint) against PJM with FERC. In the Complaint, TranSource asked FERC to order PJM to provide work papers used to determine the cost estimates for each individual system upgrade specified in System Impact Studies and to suspend all Tariff deadlines otherwise applicable to its Incremental Auction Revenue Rights (IARR) request, pending receipt of the demanded information. On September 24, 2015, FERC issued an order (the September 24 Order) setting the Complaint for a trial-type evidentiary hearing. FERC encouraged the parties to settle their disputes, held the hearing in abeyance and directed appointment of a settlement judge. As directed by FERC, PJM, TranSource and the affected PJM transmission owners (which had intervened in the case), engaged in settlement discussions with the assistance of the assigned settlement judge. On February 10, 2016, while in settlement discussions, TranSource filed an amendment to the Complaint (the Amended Complaint). In the Amended Complaint, TranSource claims it incurred $72 million in lost profit opportunities from monthly IARRs during calendar year 2015 plus continuing losses of $6 million per month going forward. On February 25, 2016, the settlement judge declared an impasse and is expected to issue a report appointing a hearing judge. PJM believes the claim for monetary damages in the Amended Complaint is speculative and without merit because TranSource cannot show that PJM failed to meet any obligation owed to TranSource or that such alleged failure provides any basis to award TranSource monetary relief. Furthermore, as a signatory to the System Impact Study Agreement, TranSource expressly agreed that they are not entitled to consequential damages or lost profits from any asserted delay or non-performance by PJM or the associated transmission owner. PJM sought to dismiss the Amended Complaint with prejudice on procedural and substantive grounds. On March 22, 2016, the Chief Judge granted the motion filed by PJM and the PJM Transmission Owners to hold the proceeding in abeyance pending the Commission's decision on PJM's request for dismissal of the Amended Complaint.

On August 30, 2017, TranSource submitted a motion accepted by the Presiding Judge permitting a TranSource witness to testify at a hearing held in September 2017 regarding additional evaluations conducted based on the late presentation of the documents by one of the Interconnected Transmission Owners. The parties' initial post-hearing briefs were filed in October 2017 with reply briefs filed in November 2017. On January 19, 2018, the Administrative Law Judge issued an initial decision finding that PJM's practices used to process TranSource's Upgrade Requests during the System Impact Study phase were nontransparent; and the impact of the system impact study phase, as applicable to TranSource, was discriminatory under the Federal Power Act and therefore unjust and unreasonable. TranSource was granted limited relief, ordering PJM to restore TranSource's original queue position and refund the $0.15 million paid by TranSource for the study of its upgrade request. All other requests for relief were denied. PJM filed a brief on exceptions on February 20, 2018. A final decision will be issued by the Commission after considering all exception briefs filed. PJM does not believe that this matter will have a material adverse effect on its financial position, results of operations or cash flow.

Credit Matter

On June 22, 2018, PJM members were notified that GreenHat Energy, LLC defaulted on its obligations related to its FTR portfolio, which includes positions applicable to the current planning year as well as the 2019–2020 and 2020–2021 planning years. The default allocation assessments to the non-defaulting members for the period June through December 2018 were $70.3 million and may change to liquidated costs. On January 30, 2019, FERC denied PJM's waiver, requesting to only offer the August 2018 defaulted FTRs for liquidation in the FTR auction conducted in July 2018. PJM has requested FERC to stay implementation of that denial and has requested rehearing and clarification of FERC's denial of PJM's waiver request. If PJM ultimately is required to implement FERC's denial, it may require recalculation and rebillings of past default allocation assessment charges. PJM cannot predict the future default allocation assessments resulting from this default. The aggregate payment default of this member, net of collateral held, will be billed to the non-defaulting members in accordance with the default allocation assessment formula in the PJM Operating Agreement. PJM has implemented two significant FTR credit policy enhancements during 2018. Additional enhancements are anticipated during 2019. The outcome of the default is not anticipated to have a material adverse effect on PJM's financial position, results of operations or cash flow.

Legal

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

14. RELATED-PARTY TRANSACTIONS

PJM occupies two buildings that are owned by a subset of PJM's members. One of the buildings was purchased in 1992 at a cost of $2.9 million. This building was subsequently renovated at a cost of $2.9 million. A second building occupied by PJM and used as one of PJM's Control Centers was purchased in July 1995 at a cost of $4.8 million. Through December 31, 2000, the facilities' owners elected not to charge PJM rent for the use of these facilities. Effective January 1, 2001, PJM commenced paying a nominal rent of two dollars per year for the use of these facilities. PJM is responsible for facility maintenance, property taxes, insurance and other related costs associated with these two buildings. Estimated annual market rent for these two buildings is approximately $1.6 million.