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American Water Works Company, Inc.
Form 10-K
February 21, 2017

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF
1934

For the transition period from to

Commission file: number 001-34028

AMERICAN WATER WORKS COMPANY, INC.

(Exact name of registrant as specified in its charter)

Delaware	51-0063696
(State or other jurisdiction of	(I.R.S. Employer
incorporation or organization)	Identification No.)

1025 Laurel Oak Road, Voorhees, NJ	08043
(Address of principal executive offices)	(Zip Code)

(856) 346-8200

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

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Title of each class	Name of each exchange on which registered
Common stock, par value \$0.01 per share	New York Stock Exchange, Inc.

Securities registered pursuant to Section 12(g) of the Act:

None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "small reporting company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer Accelerated filer

Non-accelerated filer Small reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter.

Common Stock, \$0.01 par value—\$13,463,200,000 as of June 30, 2016 (solely for purposes of calculating this aggregate market value, American Water has defined its affiliates to include (i) those persons who were, as of June 30, 2016, its executive officers, directors or known beneficial owners of more than 10% of its common stock, and (ii) such other persons who were deemed, as of June 30, 2016, to be controlled by, or under common control with, American Water or any of the persons described in clause (i) above).

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Indicate the number of shares outstanding of each of the registrant's classes of common stock as of the latest practicable date: Common Stock, \$0.01 par value per share—178,214,748 shares as of February 16, 2017.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the American Water Works Company, Inc. definitive proxy statement for the 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days after December 31, 2016 are incorporated by reference into Part III of this report.

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FORWARD-LOOKING STATEMENTS

We have made statements in Item 1—Business, Item 1A—Risk Factors, and Item 7—Management’s Discussion and Analysis of Financial Condition and Results of Operations, and in other sections of this Annual Report on Form 10-K (“Form 10-K”), or incorporated certain statements by reference into this Form 10-K, that are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the Private Securities Litigation Reform Act of 1995. In some cases, these forward-looking statements can be identified by words with prospective meanings such as “intend,” “plan,” “estimate,” “believe,” “anticipate,” “expect,” “predict,” “project,” “assume,” “forecast,” “outlook,” “future,” “pending,” “goal,” “objective,” “continue,” “seek to,” “may,” “can,” “should,” “will” and “could” or the negative of such terms or other variations or similar expressions. Forward-looking statements may relate to, among other things, our future financial performance, including our operation and maintenance (“O&M”) efficiency ratio, cash flows, our growth and portfolio optimization strategies, our projected capital expenditures and related funding requirements, our ability to repay debt, our projected strategy to finance current operations and growth initiatives, the impact of legal proceedings and potential fines and penalties, business process and technology improvement initiatives, trends in our industry, regulatory, legislative, tax policy or legal developments or rate adjustments, including rate case filings, filings for infrastructure surcharges and filings to address regulatory lag.

Forward-looking statements are predictions based on our current expectations and assumptions regarding future events. They are not guarantees or assurances of any outcomes, financial results or levels of activity, performance or achievements, and you are cautioned not to place undue reliance upon them. These forward-looking statements are subject to a number of estimates and assumptions, and known and unknown risks, uncertainties and other factors. Our actual results may vary materially from those discussed in the forward-looking statements included herein as a result of the factors discussed under Item 1A—Risk Factors, and the following important factors:

- the decisions of governmental and regulatory bodies, including decisions to raise or lower rates;
- the timeliness and outcome of regulatory commissions’ actions concerning rates, capital structure, authorized return on equity, capital investment, permitting and other decisions;
- changes in customer demand for, and patterns of use of, water, such as may result from conservation efforts;
- changes in laws, governmental regulations and policies, including environmental, health and safety, water quality, public utility and tax regulations and policies, and impacts resulting from U.S., state and local elections;
- weather conditions, patterns, events or natural disasters, including drought or abnormally high rainfall, strong winds, coastal and intercoastal flooding, earthquakes, landslides, hurricanes, tornadoes, electrical storms and solar flares;
- the outcome of litigation and government action related to the Freedom Industries chemical spill in West Virginia, including matters pertaining to the binding global agreement in principle to settle claims related to this chemical spill;
- our ability to appropriately maintain current infrastructure, including our operational and information technology (IT) systems, and manage the expansion of our business;
- exposure or infiltration of our critical infrastructure, operational technology and IT systems through physical or cyber attacks or other disruptions;
- our ability to obtain permits and other approvals for projects;
- changes in our capital requirements;
- our ability to control operating expenses and to achieve efficiencies in our operations;
- the intentional or unintentional actions of a third party, including contamination of our water supplies or water provided to our customers;
- our ability to obtain adequate and cost-effective supplies of chemicals, electricity, fuel, water and other raw materials that are needed for our operations;
- our ability to successfully meet growth projections for our business and capitalize on growth opportunities, including our ability to, among other things, acquire and integrate water and wastewater systems into our regulated operations,

and enter into contracts and other agreements with, or otherwise obtain, new customers in our market-based businesses;

risks and uncertainties associated with contracting with the U.S. government, including ongoing compliance with applicable government procurement and security regulations;

- cost overruns relating to improvements in or the expansion of our operations;

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- our ability to maintain safe work sites;
- our exposure to liabilities related to environmental laws and similar matters resulting from, among other things, water and wastewater service provided to customers, including, for example, our water management solutions that are focused on customers in the natural gas exploration and production market;
- changes in general economic, political, business and financial market conditions;
- access to sufficient capital on satisfactory terms and when and as needed to support operations and capital expenditures;
- fluctuations in interest rates;
- restrictive covenants in or changes to the credit ratings on our current or future debt that could increase our financing costs or funding requirements or affect our ability to borrow, make payments on debt or pay dividends;
- fluctuations in the value of benefit plan assets and liabilities that could increase our cost and funding requirements;
- changes in federal or state income tax laws, including tax reform, the availability of tax credits and tax abatement programs, and our ability to utilize our U.S. and state net operating loss carryforwards;
- migration of customers into or out of our service territories;
- the use by municipalities of the power of eminent domain or other authority to condemn our systems;
- difficulty in obtaining, or the inability to obtain, insurance at acceptable rates and on acceptable terms and conditions;
- the incurrence of impairment charges related to our goodwill or other assets;
- labor actions, including work stoppages and strikes;
- the ability to retain and attract qualified employees;
- civil disturbances or terrorist threats or acts, or public apprehension about future disturbances or terrorist threats or acts; and
- the impact of new, and changes to existing, accounting standards.

These forward-looking statements are qualified by, and should be read together with, the risks and uncertainties set forth above and the risk factors included in Item 1A—Risk Factors and other statements contained in this Form 10-K, and you should refer to such risks, uncertainties and risk factors in evaluating such forward-looking statements. Any forward-looking statements we make speak only as of the date this Form 10-K was filed with the United States Securities and Exchange Commission (“SEC”). Except as required by the federal securities laws, we do not have any obligation, and we specifically disclaim any undertaking or intention, to publicly update or revise any forward-looking statements, whether as a result of new information, future events, changed circumstances or otherwise. New factors emerge from time to time, and it is not possible for us to predict all such factors. Furthermore, it may not be possible to assess the impact of any such factor on our businesses, either viewed independently or together, or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement. The foregoing factors should not be construed as exhaustive.

PART I

ITEM 1. BUSINESS

Our Company

With a history dating back to 1886, American Water Works Company, Inc. is a holding company originally incorporated in Delaware in 1936. Through its subsidiaries, American Water is the largest and most geographically diverse investor-owned publicly-traded water and wastewater utility company in the United States, as measured by both operating revenues and population served. We also operate several market-based businesses that provide a broad range of related and complementary water and wastewater services. We employ approximately 6,800 professionals who provide drinking water, wastewater and other related services to an estimated 15 million people in 47 states, the District of Columbia and Ontario, Canada.

Throughout this Annual Report on Form 10-K, unless the context otherwise requires, references to “we,” “us,” “our,” the “Company,” and “American Water” mean American Water Works Company, Inc. and its subsidiaries, taken together as a whole.

Operating Segments

The largest component of the Company’s business includes rate regulated subsidiaries that provide water and wastewater services to customers in 16 states, collectively presented as our “Regulated Businesses”. We conduct the majority of our business through the Regulated Businesses segment. We also operate market-based businesses within four operating segments that individually do not meet the criteria of a reportable segment in accordance with generally accepted accounting principles in the United States (“GAAP”). These four non-reportable operating segments are collectively presented as our “Market-Based Businesses,” which is consistent with how management assesses the results of these businesses. Additional information can be found in Item 7—Management’s Discussion and Analysis of Financial Condition and Results of Operations and Note 19—Segment Information in the Notes to Consolidated Financial Statements.

Regulated Businesses

Our primary business involves the ownership of utilities that provide water and wastewater services to residential, commercial, industrial and other customers, including sale for resale and public authority customers. Our Regulated Businesses that provide these services operate in approximately 1,600 communities in 16 states in the United States and are generally subject to economic regulation by certain state utility commissions or other entities engaged in utility regulation, referred to as Public Utility Commissions (“PUCs”). Certain federal and state governments also regulate environmental, health and safety, and water quality matters. We report the results of the services provided by our utilities in our Regulated Businesses segment.

Our Regulated Businesses segment’s operating revenues were \$2,871 million for 2016, \$2,743 million for 2015 and \$2,674 million for 2014, accounting for 86.9%, 86.8% and 88.8%, respectively, of total operating revenues for the same periods.

The following table summarizes our Regulated Businesses’ operating revenues, number of customers and estimated population served by state, each as of and for the year ended December 31, 2016:

Operating	Number of	Estimated
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	Revenues (In millions)	% of Total	Customers (In thousands)	% of Total	Population Served (In millions)	% of Total
New Jersey	\$ 730	25.4 %	671	20.3 %	2.7	22.1 %
Pennsylvania	639	22.3 %	709	21.4 %	2.3	18.8 %
Missouri	288	10.0 %	476	14.4 %	1.5	12.3 %
Illinois	275	9.6 %	315	9.5 %	1.3	10.7 %
Indiana	212	7.4 %	300	9.1 %	1.3	10.7 %
California	211	7.4 %	176	5.3 %	0.7	5.7 %
West Virginia	142	4.9 %	169	5.1 %	0.5	4.1 %
Subtotal (Top Seven States)	2,497	87.0 %	2,816	85.0 %	10.3	84.4 %
Other (a)	374	13.0 %	496	15.0 %	1.9	15.6 %
Total Regulated Businesses	\$ 2,871	100.0 %	3,312	100.0 %	12.2	100.0 %

(a) Includes data from our utilities in the following states: Georgia, Hawaii, Iowa, Kentucky, Maryland, Michigan, New York, Tennessee and Virginia.

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Water Supply and Wastewater Services

Our Regulated Businesses generally own the physical assets used to store, pump, treat and deliver water to our customers and collect, treat, transport and recycle wastewater. Typically, we do not own the water itself, which is held in public trust and is allocated to us through contracts and allocation rights granted by federal and state agencies or through the ownership of water rights pursuant to local law. We are dependent on defined sources of water supply and obtain our water supply from surface water sources such as reservoirs, lakes, rivers and streams; from ground water sources, such as wells and aquifers; and water purchased from third party water suppliers. The level of treatment we apply to the water varies significantly depending upon the quality of the water source and customer stipulations. Surface water sources typically generally require significant treatment, while groundwater sources require chemical treatment only.

The following chart depicts the sources of water supply as of December 31, 2016:

The percentages of water supply by source type for our top seven states based on our Regulated Businesses operating revenues for 2016 were as follows:

	Surface Water	%	Ground Water	%	Purchased Water	%
New Jersey	72	%	23	%	5	%
Pennsylvania	91	%	7	%	2	%
Missouri	80	%	19	%	1	%
Illinois	53	%	36	%	11	%
Indiana	44	%	55	%	1	%
California	—		66	%	34	%
West Virginia	99	%	—		1	%

Our ability to meet the existing and future water demands of our customers depends on an adequate water supply. Drought, governmental restrictions, overuse of sources of water, the protection of threatened species or habitats, contamination, or other factors may limit the availability of ground and surface water. We employ a variety of measures in an effort to obtain adequate sources of water supply, both in the short-term and over the long-term. The geographic diversity of our service areas may mitigate some of the economic effect on the water supply associated with weather extremes we might encounter in any particular service territory. For example, in any given summer, some areas may experience drier than average weather, which may reduce the amount of source water available, while other areas we serve may experience wetter than average weather.

In our long-term planning, we evaluate quality, quantity, growth needs and alternate sources of water supply as well as transmission and distribution capacity. Water supply is seasonal in nature and weather conditions can have a pronounced effect on supply. In order to ensure that we have adequate water supply, we use long-term planning processes and maintain contingency plans to minimize the potential impact on service through a wide range of weather fluctuations. In connection with supply planning for most surface or groundwater sources, we employ models to determine safe yields under different rainfall and drought conditions. Surface and ground water levels are routinely monitored so that supply capacity deficits may, to the extent possible, be predicted and mitigated through demand

management and additional supply development. An example of our use of long-term planning to ensure that we have adequate water supply is our involvement in the Monterey Peninsula Water Supply Project (the “Water Supply Project”) in California. The Water Supply Project includes the construction of a desalination plant, owned by California-American Water Company, our wholly owned subsidiary (“Cal Am”), which includes the construction of wells that would supply water to the desalination plant. In

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addition, the Water Supply Project also includes Cal Am's purchase of water from a groundwater replenishment project (the "GWR Project") between the Monterey Regional Water Pollution Control Agency ("MRWPCA") and the Monterey Peninsula Water Management District ("MPWMD"). The Water Supply Project is intended, among other things, to fulfill obligations of Cal Am to eliminate unauthorized diversions from the Carmel River as required under orders of the California State Water Resources Control Board (the "SWRCB").

Wastewater services involve the collection of wastewater from customers' premises through sewer lines. The wastewater is then transported through a sewer network to a treatment facility, where it is treated to meet required regulatory standards for wastewater before being returned to the environment. The solid waste by-product of the treatment process is disposed of or recycled in accordance with applicable standards and regulations.

Economic Regulation and Rate Making Process

Our Regulated Businesses operate under a regulatory compact whereby, in exchange for exclusive rights to provide water and wastewater services in defined service territories, we have an obligation to serve customers within those territories requesting service, within reasonable limits. In return for agreeing to invest capital into our water and wastewater systems, we are given the opportunity to recover our costs of doing business and earn a reasonable rate of return on our investments.

The operations of our Regulated Businesses are generally subject to regulation and oversight by their respective state PUCs, with the primary responsibility of the PUCs to promote the overall public interest by balancing the interest of customers and utility investors. Specific authority might differ from state to state, but in most states PUCs approve rates charged to customers, accounting treatments, long-term financing programs and cost of capital, capital expenditures, O&M expenses, taxes, transactions and affiliate relationships, reorganizations and mergers and acquisitions. Regulatory policies vary from state to state and could potentially change over time. These policies will affect the timing, as well as the extent, of recovery of expenses and the realized return on invested capital.

The process to obtain approval for a change in rates generally occurs by way of a rate case filed by the utility with the PUC on a periodic basis. The timing of rate case filings is typically determined by either periodic requirements in the regulatory jurisdiction or by the utility's need to increase its revenue requirement to recover capital investment costs, changes in operating revenues, operating costs or other market conditions.

Our rate case management program is guided by the principles of obtaining timely recovery of capital investment costs, recognition of declining sales resulting from reduced consumption and appropriate recovery of utility operating and maintenance costs, including costs incurred for compliance with environmental regulations. The program attempts to minimize the delay, or "regulatory lag" between the time our Regulated Businesses make a capital investment or incur an operating expense increase, and the time when those costs are reflected in rates. The management team at each of our utilities accounts for the time required for the regulatory process, and files rate cases with the goal of obtaining rates that reflect as closely as possible the cost of providing service at the time the rates become effective.

Our Regulated Businesses support regulatory practices at the PUCs and state legislatures that mitigate the adverse impact of regulatory lag. Examples of approved regulatory practices include:

Regulatory Practices	Description	States Allowed
Infrastructure replacement surcharges	Allows rates to change periodically, outside a general rate proceeding, to reflect recovery of investments made to replace infrastructure necessary to sustain safe, reliable and affordable services for our customer. These mechanisms typically involve an upfront review of overall multi-year investment plans as well as periodic filings and reviews to ensure transparency.	IL, IN, MO, NJ, NY, PA, TN, WV
Future test year	A test period used for setting rates, that begins with the date new rates are effective. This allows current or projected revenues, expenses and investments to be collected on a more timely basis.	CA, HI, IL, IN, KY, NY, PA, TN, VA
Hybrid test year	Allows an update to historical data for “known and measurable” changes that occur subsequent to the historical test year.	IA, MD, MO, NJ, WV
Utility plant recovery mechanisms	Allows recovery of the full return on utility plant costs during the construction period, instead of capitalizing an allowance for funds used during construction. In addition, some states, such as Indiana, allow the utility to seek pre-approval of certain capital projects and associated costs. In this pre-approval process, the PUC may assess the prudence of such projects.	CA, IL, KY, NY PA, TN, VA
Expense mechanisms	Allows changes in certain operating expenses, which may fluctuate based on conditions beyond the utility’s control, to be recovered outside of a general rate proceeding or deferred until the next general rate proceeding.	CA, IL, MD, MO, NJ, NY, PA, TN, VA, WV
Revenue stability mechanisms	Separates a water utility's cost recovery from the amount of water it sells to recover its fixed costs and on-going infrastructure investment needs. Such a mechanism adjusts rates periodically to ensure that a utility's revenue will be sufficient to cover its costs regardless of sales volume, while providing an incentive for customers to use water more efficiently.	CA, IL, NY
Consolidated tariffs	Use of a unified rate structure for multiple water systems owned and operated by a single utility, which may or may not be physically interconnected. The consolidated tariff pricing structure may be used fully or partially in a state and is generally used to moderate the impact of periodic fluctuations in local costs while lowering administrative costs for customers. Pennsylvania also permits a blending of water and wastewater rate structures.	IA, IL, IN, KY, MD, MO, NJ, PA, WV

We pursue or seek enhancement to these regulatory practices to facilitate efficient recovery of our costs and investments, in order to provide safe, reliable and affordable services to our customers. The ability to seek regulatory treatment as described above does not guarantee that the state PUCs will accept our proposal in the context of a particular rate case, and these practices may reduce, but not eliminate, regulatory lag associated with traditional rate making processes. It is also our strategy to expand their use in areas where they may not currently apply.

We also support state legislation that enables the consolidation of the largely fragmented water and wastewater industries. Legislation in certain states has generally enabled sales between interested parties, has allowed a reasonable market valuation of purchased property, and has enabled consolidation of water and wastewater rates.

Customers

Our Regulated Businesses have a large and geographically diverse customer base. A customer is a person, corporation, municipality or any other entity that purchases our water or wastewater services as of the last business day of a reporting period. Also, a single customer may purchase our services for use by multiple individuals or businesses in the case of many homes, apartment complexes, businesses and governmental entities.

Residential customers make up the majority of our customer base in all of the states in which we operate. In 2016, residential customers accounted for 91.1% of our customer base, 59.0% of the billed water sales and 55.5% of the operating revenues of our Regulated Businesses. We also serve commercial customers, such as offices, retail stores and restaurants; industrial customers, such as large-scale manufacturing and production operations; and public authorities, such as government buildings and other public sector facilities, including schools. We also supply water through our distribution systems to public fire hydrants for firefighting purposes, to private fire customers for use in fire suppression systems in office buildings and other facilities, as well as to other water utilities in the form of bulk water supplies for distribution to their own customers.

The vast majority of our regulated water customers are metered, which allows us to measure and bill for our customers' water usage, typically on a monthly basis. We employ a variety of methods of customer meter reading to monitor consumption. These methods range from meters with mechanical registers where consumption is manually recorded by meter readers, to meters with electronic registers capable of transmitting consumption data to proximity devices (touch read) or via radio frequency to mobile or fixed network data collectors. The majority of new meters are able to support future advances in electronic meter reading. Our wastewater customers are billed either a flat rate or based on their water consumption.

The following table summarizes the number of water and wastewater customers we served by class as of December 31:

(In thousands)	2016		2015		2014	
	Water	Wastewater	Water	Wastewater	Water	Wastewater
Residential	2,846	171	2,829	133	2,814	118
Commercial	220	10	219	8	218	6
Industrial	4	—	4	—	4	—
Public & other	61	—	60	—	59	—
Total	3,131	181	3,112	141	3,095	124

Customer growth in our Regulated Businesses is primarily driven by the following factors:

- adding new customers to our regulated customer base by acquiring water and/or wastewater utility systems;
- organic population growth or decline in our authorized service areas; and
- the sale of water to other community water systems.

Generally, we add customers through acquisitions of small and medium water and/or wastewater systems in close geographic proximity to areas where we operate our Regulated Businesses, which we refer to as “tuck-ins.” The proximity of tuck-in opportunities to our regulated footprint allows us to integrate and manage the acquired systems and operations primarily using our existing management and to achieve operational efficiencies and prioritize capital investment needs. Pursuing tuck-ins has been and continues to be a fundamental part of our growth strategy. We intend to continue to expand our regulated footprint geographically by acquiring water and wastewater systems in our existing markets and, if appropriate, pursue acquisition opportunities in certain domestic markets where we do not currently operate our Regulated Businesses. Before entering new regulated markets, we will evaluate the business and regulatory climates to ensure that we will have the opportunity to achieve an appropriate rate of return on our investment while maintaining our high standards for providing safe, reliable and affordable services to our customers, as well as a line of sight to grow our base customers after entering the new market. For more information, see Item 7—Management’s Discussion and Analysis of Financial Condition and Results of Operations—2016 Strategic Focus & Achievements—Growth.

Seasonality

Customer demand for our water service is affected by weather and is generally greater during the summer months primarily due to increased usage for irrigation systems and other outdoor water use. As such, we typically expect our operating revenues to be the highest in the third quarter of each year compared to any of the other quarters. However, varying summer weather conditions can impact our third quarter financial results. Summer weather that is cooler and/or wetter than average generally serves to suppress customer water demand and can reduce water operating revenues and operating income. Summer weather that is hotter and drier than average generally increases operating revenues and operating income.

Competition

In our Regulated Businesses, we generally do not face direct competition in our existing markets because: (i) we operate in those markets pursuant to certificates of public convenience and necessity (or similar authorizations) issued by state PUCs; and (ii) the high cost of constructing a new water and wastewater system in an existing market creates a high barrier to market entry. However, our Regulated Businesses do face competition from governmental agencies,

other investor-owned utilities, large industrial customers with the ability to provide their own water supply/treatment process and strategic buyers that are entering new markets and/or making strategic acquisitions. Our largest investor-owned competitors, when pursuing acquisitions, based on a comparison of operating revenues and population served, are Aqua America, Inc., United Water (owned by Suez Environnement Company S.A.), American States Water Company and California Water Service Group. From time to time, we also face competition from infrastructure funds, multi-utility companies and others, such as Algonquin Power and Utilities Corp. and Corix.

All or portions of our regulated subsidiaries' utility assets could be acquired by state, municipal or other government entities through one or more of the following methods:

- eminent domain (also known as condemnation);
- the right of purchase given or reserved by a municipality or political subdivision when the original certificate of public convenience and necessity was granted; and
- the right of purchase given or reserved under the law of the state in which the utility subsidiary was incorporated or from which it received its certificate.

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The acquisition consideration related to such a transaction initiated by a local government may be determined consistent with applicable eminent domain law, or may be negotiated or fixed by appraisers as prescribed by the law of the state or in the particular franchise or charter.

We actively monitor condemnation activities that may affect us as developments occur. We do not believe that condemnation poses a material threat to our ability to operate our Regulated Businesses, either individually or taken as a whole.

Market-Based Businesses

Through our Market-Based Businesses, we provide services to military bases; municipalities; oil and gas exploration and production companies; and to some commercial, industrial and residential customers. These customers are not subject to economic regulation by state PUCs and do not require significant capital investment.

Our Market-Based Businesses segment's operating revenues were \$451 million for 2016, \$434 million for 2015 and \$355 million for 2014, accounting for 13.7%, 13.7% and 11.8%, respectively, of total operating revenues for the same periods. Included within the Market-Based Businesses segment results is operating revenues attributed to Canadian operations of \$6 million, \$6 million, and \$7 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Our Market-Based Businesses are comprised of four operating segments:

- **Military Services Group**, which enters into long-term contracts, generally 50 years, with the U.S. Department of Defense for the O&M of the water and wastewater systems on certain military bases;
- **Homeowner Services Group**, which primarily provides warranty-type services to homeowners and smaller commercial customers to protect against the cost of repairing broken or leaking water pipes or clogged or blocked sewer pipes, located inside and outside their premise, as well as interior electric line repairs and other services;
- **Contract Operations Group**, which enters into contracts primarily to operate and maintain water and wastewater facilities and other related services mainly for municipalities and the food and beverage industry; and
- **Keystone**, which provides customized water sourcing, transfer services, pipeline construction, water and equipment hauling and water storage solutions, for natural gas exploration and production companies.

Military Services Group

Our Military Services Group operates on 12 military bases under 50-year contracts with the U.S. Department of Defense ("DoD"). The scope of the contracts includes O&M of the water and wastewater systems on the bases and a capital program. The replacement of assets assumed when a contract is awarded to the Company is funded from the contract fee. At times, new assets are required to support the base's mission. Construction of new assets are funded by the U.S. DoD as additional work under the contract. The capital program does not use the Company's equity or debt borrowings; however, some working capital is used to fund work-in-process until paid by the U.S. DoD. The contract price for nine of these contracts is subject to redetermination two years after commencement of operations, and every three years thereafter. Price redetermination is a contract mechanism to periodically adjust the service fee in the next period to reflect changes in contract obligations and anticipated market conditions. Three of these contracts are subject to annual price adjustments under a mechanism similar to price redetermination, called "Economic Price Adjustment." During the contract term, we may make limited short-term working capital investments under our contracts with the U.S. DoD. All of these contracts may be terminated, in whole or in part, prior to the end of the 50-year term for convenience of the U.S. government or as a result of default or non-performance by the subsidiary performing the contract. In either event, pursuant to termination provisions applicable to these contracts, we would be entitled to recover allowable costs that we may have incurred under the contract, plus the contract profit margin on incurred costs.

Homeowner Services Group

Our Homeowner Services Group, through our various protection programs, provides services to domestic homeowners and smaller commercial customers to protect against the cost of interior and external water and sewer line repairs, interior electric line repairs and other services. Our LineSaver™ program involves partnering with utilities, municipalities and other organizations to offer our protection programs to customers serviced by or affiliated with those municipalities and organizations. Terms of these partnership agreements are typically three to five years in length, with optional renewals. As of December 31, 2016, our Homeowner Services Group had approximately 1.7 million customer contracts in 43 states and the District of Columbia and 10 LineSaver™ partnership agreements with municipalities and other organizations.

Contract Operations Group

Our Contract Operations Group enters into public/private partnerships, including: (i) O&M; (ii) Design; Build and Operate; and (iii) Design, Build, Finance, Operate and Maintain contracts for the provision of services to water and wastewater facilities for municipalities, the food and beverage industry and other customers. Historically, we have made minimal long-term capital investment under these contracts; instead we perform our services for a fee. Occasionally, we provide our customers with financing for capital projects as part of a long-term O&M partnership. As of December 31, 2016, our Contract Operations Group had 43 contracts across the United States and Canada, varying in size and scope and ranging in length from one to 30 years.

Keystone

In July 2015, we acquired a ninety-five percent interest in Water Solutions Holdings, LLC, including its wholly owned subsidiary, Keystone Clearwater Solutions, LLC (collectively referred to as “Keystone”). Keystone is a water management solution company currently focused on exploration and production customers in the Appalachian Basin, as well as customers in the municipal water services market. Keystone primarily provides customized water sourcing, transfer, storage and transport services, along with pipeline construction services for natural gas exploration and production companies. Keystone operates under master service agreements that generally range from two to five years. When the initial term of these agreements expire, they typically renew automatically on an annual basis and generally are cancelable by either party with 30 days prior notice. As of December 31, 2016, Keystone serves 58 customers.

Competition

We face competition in our Market-Based Businesses from a number of service providers, including Veolia Environnement S.A., American States Water Company, Operations Management International, Inc. and Southwest Water Company, particularly in the area of O&M contracting. Securing new O&M contracts is highly competitive, as these contracts are awarded based on a combination of customer relationships, service levels, competitive pricing, references and technical expertise. We also face competition in maintaining existing O&M contracts to which we are a party, as the municipal and industrial fixed term contracts frequently come up for renegotiation and are subject to an open bidding process. Our Homeowner Services Group faces competition primarily from HomeServe USA, Pivotal Home Solutions (owned by Southern Company Gas) and Dominion Energy Solutions. Keystone currently faces competition from water service providers that typically provide particular segments of the water management cycle, such as Rockwater Energy Solutions, Rain for Rent and Fluid Delivery Solutions, LLC.

Industry and Regulatory Matters

Overview

The United States water and wastewater industries include investor-owned systems as well as municipal systems that are owned and operated by local governments or governmental subdivisions. Both industries are highly fragmented. The U.S. Environmental Protection Agency (the “EPA”) estimates that approximately 84% of the United States water market is served by municipal systems and approximately 98% of the country’s wastewater systems are government owned. According to the EPA, there are approximately 50,000 community water systems and approximately 20,000 community wastewater systems in the United States. Over half of the community water systems are very small, serving a population of 500 or less.

This large number of relatively small, fragmented water systems and wastewater systems may result in inefficiencies in the marketplace, since such utilities may not have the operating expertise, financial and technological capability or

economies of scale to provide services or raise capital as efficiently as larger utilities. Larger utilities that have greater access to capital are generally more capable of making mandated and other necessary infrastructure upgrades to both water and wastewater systems. In addition, water and wastewater utilities with large customer bases, spread across broad geographic regions, may more easily absorb the impact of significant variations in precipitation and temperatures, such as droughts, excessive rain and cool temperatures in specific areas. Larger utilities generally are able to spread support services over a larger customer base, thereby reducing the costs to serve each customer. Since many administrative and support activities can be efficiently centralized to gain economies of scale, companies that participate in industry consolidation have the potential to improve operating efficiencies, lower costs per unit and improve service at the same time.

The aging water and wastewater infrastructure in the United States is in need of modernization and replacement. Increased regulations to improve water quality and the management of water and wastewater residuals' discharges, which began with passage of the Clean Water Act in 1972 and the Safe Drinking Water Act in 1974, have been among the primary drivers of the need for modernization. In 2011, the EPA estimated that the nation's drinking water utilities needed \$384.2 billion in infrastructure investments between 2011 and 2030, for thousands of miles of pipe, treatment plants, storage tanks and other key assets, to ensure the public health, security and economic well-being of our cities, towns and communities. In the Clean Watersheds Needs Survey 2012 Report to Congress, the EPA also estimated that \$271.0 billion of capital investments and would be necessary between 2012 and 2032, to meet the nation's wastewater and stormwater treatment and collection needs. Additionally, in 2013, the American Society of Civil Engineers ("ASCE") published its Report Card for America's Infrastructure, in which it gave the water and wastewater infrastructure a grade of "D" because much of the infrastructure is nearing the end of its useful life. The ASCE report concluded that there will be an investment gap between 2013 and 2020 of \$84 billion for drinking water and wastewater infrastructure.

The following chart depicts estimated aggregate capital expenditure needs from 2011 through 2030 for United States drinking water systems:

Note: Numbers may not total due to rounding

Source: U.S. Environmental Protection Agency's 2011 Drinking Water Infrastructure Needs Survey and Assessment
Environmental, Health and Safety, and Water Quality Regulation

Our water and wastewater operations, including the services provided by both our Regulated Businesses and Market-Based Businesses, are subject to extensive U.S. federal, state and local laws and regulations, and in the case of our Canadian operations, Canadian laws and regulations governing the protection of the environment, health and safety, the quality of the water we deliver to our customers, water allocation rights and the manner in which we collect, treat, discharge, recycle and dispose of wastewater. These regulations include the Safe Drinking Water Act, the Clean Water Act and other U.S. federal, state, local and Canadian laws and regulations governing the provision of water and wastewater services, particularly with respect to the quality of water we distribute. We also are subject to various U.S. federal, state, local and Canadian laws and regulations governing the storage of hazardous materials, the management and disposal of hazardous and solid wastes, discharges to air and water, the cleanup of contaminated sites, dam safety and other matters relating to the protection of the environment and health and safety. State PUCs also set conditions and standards for the water and wastewater services we deliver.

Environmental, health and safety, and water quality regulations are complex and change frequently. The overall trend has been that they have become increasingly stringent over time. As newer or stricter standards are introduced, our capital and operating costs could increase. We incur substantial costs associated with compliance with environmental, health and safety, and water quality regulation to which our operations are subject. In the past, our Regulated Businesses have generally been able to recover costs associated with compliance related to environmental, health and safety standards; however, this recovery is affected by regulatory lag and the corresponding uncertainties surrounding rate recovery. We estimate that we will make capital expenditures of \$83 million during 2017 and \$78 million during 2018 for environmental control facilities, which we define for this purpose as any project (or portion thereof) that involves the preservation of air, water or land.

We maintain an environmental program including responsible business practices, compliance with environmental laws and regulations, effective use of natural resources, and stewardship of biodiversity. We believe that our operations are materially in compliance with, and in many cases surpass, minimum standards required by applicable environmental laws and regulations. Water samples from across our water systems are analyzed on a regular basis for compliance with regulatory requirements. Across our Company, we conduct over one million water quality tests each year at our laboratory facilities and plant operations, including continuous on-line instrumentations such as monitoring turbidity levels, disinfectant residuals and adjustments to chemical treatment based on changes in incoming water. For 2016, we achieved a score of greater than 99% for drinking water compliance and according to the EPA's statistics, American Water's performance has been far better than the industry average over the last several years. In fact, in 2016, American Water systems were 21 times better than the industry average for compliance with drinking water requirements.

We participate in the Partnership for Safe Water, the EPA's voluntary program to meet more stringent goals for reducing microbial contaminants. With 69 of our 81 surface water plants receiving the program's "Director" award, which recognizes utilities that: (1) have completed a comprehensive self-assessment report, (2) created an action plan for continuous improvement and (3) produced high quality drinking water, we account for approximately one-third of the plants receiving such awards nationwide. In addition, 66 American Water surface water plants have received the "Five-Year Phase III" award, while 60 plants have been awarded the "Ten-Year Phase III" award. Additionally, 39 surface water plants received the "Fifteen-Year Phase III" award, which recognizes plants that have met the Director award status for 15 years. Further, nine surface water plants have been awarded the "Presidents" award, which recognizes treatment plants that achieve the Partnership's rigorous individual filter effluent turbidity standards.

Safe Drinking Water Act

The Federal Safe Drinking Water Act and regulations promulgated thereunder establish national quality standards for drinking water. The EPA has issued rules governing the levels of numerous naturally occurring and man-made chemical and microbial contaminants and radionuclides allowable in drinking water and continues to propose new rules. These rules also prescribe testing requirements for detecting regulated contaminants, the treatment systems which may be used for removing those contaminants and other requirements. Federal and state water quality requirements have become increasingly stringent, including increased water testing requirements, to reflect public health concerns. To date, the EPA has set standards for approximately 90 contaminants and indicators for drinking water.

The EPA Administrator has the authority to require monitoring for additional unregulated contaminants to help formulate the basis for future regulations. Many of our systems recently completed the process for monitoring 28 unregulated contaminants under the third round of the Unregulated Contaminant Monitoring Rule, and our laboratory and systems are preparing for the fourth round of testing expected to begin in 2018. There are thousands of other chemical compounds that are not regulated, many of which are lacking a testing methodology, occurrence data, health effects information and/or treatment technology. The process of developing new drinking water standards is long and complicated, but American Water actively participates with the EPA and other water industry groups by sharing its research and water quality operational knowledge.

To effect the removal or inactivation of microbial organisms, the EPA has promulgated various rules to improve the disinfection and filtration of drinking water and to reduce consumers' exposure to disinfectants and by-products of the disinfection process. In January 2006, the EPA promulgated the Long-term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfectants and Disinfection Byproduct Rule. In October 2006, the EPA finalized the Ground Water Rule, applicable to water systems providing water from underground sources. In July 2014, the State of California

implemented a primary drinking water standard of 10 micrograms per liter for hexavalent chromium. In 2016, the revised Total Coliform Rule implemented a “find and fix” process where exceedance of bacterial trigger levels requires an assessment to correct any sanitary defects. We are in compliance with these standards. The EPA is actively considering regulations for a number of contaminants, including strontium, hexavalent chromium, fluoride, nitrosamines, perchlorate, some pharmaceuticals and certain volatile organic compounds. We do not anticipate that any such regulations, if enacted, will require implementation in 2017.

The EPA revised the monitoring and reporting requirements of the existing Lead and Copper Rule in 2007 and Congress enacted the Reduction of Lead in Drinking Water Act in January 2011 regarding the use and introduction into commerce of lead pipes, plumbing fittings or fixtures, solder and flux. However, the events in Flint, Michigan have highlighted attention on the occurrence of lead – primarily in building plumbing – and it is anticipated that the EPA will propose updated regulations in 2017. American Water’s inventory of lead service lines is expected to be completed by the end of 2017. It is currently estimated that approximately 5% of our service lines contain lead. Our goal is to replace our lead service lines over approximately 10 years, at an estimated cost of \$600 million to \$1.2 billion. In cases where we are replacing an American Water owned lead service line, our standard approach will be to replace the company-owned portion and work with the customer to replace the customer-owned portion of the service line, all the way to the customer’s home. Replacing the full service line is considered a best practice as advised by the Lead Service Line Replacement Collaborative, a collaborative of leading water industry organizations. We do not plan on replacing customer-owned lead service lines at locations where our portion of the service line does not contain lead or is not part of a main replacement project.

Although it is difficult to project the ultimate costs of complying with the above or other pending or future requirements, we do not expect current requirements under the Safe Drinking Water Act and other similar laws to have a material impact on our operations or financial condition. In addition, capital expenditures and operating costs to comply with environmental mandates traditionally have been recognized by the state PUCs as appropriate for inclusion in establishing rates. As a result, we expect to recover the operating and capital costs resulting from these pending or future requirements.

Clean Water Act

The Federal Clean Water Act regulates discharges from drinking water and wastewater treatment facilities into lakes, rivers, streams and groundwater. In addition to requirements applicable to our wastewater collection systems, our operations require discharge permits under the National Pollutant Discharge Elimination System (“NPDES”) permit program established under the Clean Water Act, which must be renewed every five years. Pursuant to the NPDES permit program, the EPA or implementing states set maximum discharge limits for wastewater effluents and overflows from wastewater collection systems. Discharges that exceed the limits specified under NPDES permits can lead to the imposition of penalties, and persistent non-compliance could lead to significant penalties and compliance costs. In addition, the difficulty of obtaining and complying with NPDES permits, and renewing expiring permits, may impose time and cost burdens on our operations. From time to time, discharge violations occur at our facilities, some of which result in fines. We do not expect any such violations or fines to have a material impact on our results of operations or financial condition.

Other Environmental, Health and Safety, and Water Quality Matters

Our operations also involve the use, storage and disposal of hazardous substances and wastes. For example, our water and wastewater treatment facilities store and use chlorine and other chemicals which generate wastes that require proper handling and disposal under applicable environmental requirements. We also could incur remedial costs in connection with any contamination relating to our operations or facilities or our off-site disposal of wastes. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (“CERCLA”), authorizes the EPA, and comparable state laws authorize state environmental authorities, to issue orders and bring enforcement actions to compel responsible parties to investigate and take remedial actions at any site that is determined to present an actual or potential threat to human health or the environment because of an actual or threatened release of one or more hazardous substances. Parties that generated or transported hazardous substances to such sites, as well as the owners and operators of such sites, may be deemed liable, without regard to fault, under CERCLA or comparable state laws. Although we are not aware of any material cleanup or decontamination obligations, the discovery of contamination or the imposition of such obligations in the future could result in additional costs. Our facilities and operations also are subject to requirements under the U.S. Occupational Safety and Health Act and are subject to inspections thereunder. For further information, see Item 1—Business—Research and Development.

Certain of our subsidiaries are involved in pending legal proceedings relating to environmental matters. Further description of these proceedings can be found in Item 3—Legal Proceedings.

Research and Development

We have a research and development program, which seeks to improve water quality and operational effectiveness in all areas of our business. Our research and development personnel are located in New Jersey and Illinois. In addition, our quality control and testing laboratory in Belleville, Illinois supports our research and development activities through testing and analysis.

We continue to collaborate with the EPA to achieve effective environmental, health and safety, and water quality regulation. This relationship includes sharing of our research and national water quality monitoring data in addition to our treatment and distribution system optimization research. Our engagement with the EPA provides us with early insight into emerging regulatory issues and initiatives, thereby allowing us to anticipate and to accommodate our future compliance requirements.

Approximately one-quarter of our research budget is funded by competitively awarded outside research grants. Such grants reduce the cost of research and allow collaboration with leading national and international researchers. In 2016, we spent \$4 million, including \$1 million funded by research grants. Spending, net of research grant funding, amounted to \$3 million in 2015 and 2014.

We believe that continued research and development activities are critical for providing safe, reliable and affordable services, as well as maintaining our leadership position in the industry, which provides us with a competitive advantage as we seek additional business with new and existing customers.

Support Services

American Water Works Service Company, Inc. (“Service Company”) is our wholly owned subsidiary that provides support and operational services for our operating subsidiaries. These services are provided predominantly to our Regulated Businesses under the terms of contracts with these subsidiaries that have been approved by state PUCs, where necessary. These services are also provided to our Market-Based Businesses organized under American Water Enterprises. They are only provided to Keystone upon its request. These services, which are provided at cost, may include accounting and finance, administration, business development, communications, compliance, education and training, engineering, health and safety, human resources, information systems, internal audit, investor relations, legal and governance, operations, procurement, rates support, security, risk management, treasury, water quality and research and development. Service Company also operates two national customer service centers located in Alton, Illinois and Pensacola, Florida, which provide customer relations, operations and field service support to the Regulated Businesses. The services are provided at cost and enable our Regulated Businesses and Market-Based Businesses to fulfill their responsibilities in a more cost-effective manner.

Our security department provides oversight and policy guidance of physical and information security throughout our operations and is responsible for designing, implementing, monitoring and supporting active and effective physical, operational technology and IT security controls. Vulnerability assessments are conducted periodically to evaluate the effectiveness of existing security controls and serve as the basis for further capital investment in security for the facility. Operational technology and IT security controls are deployed or integrated as a preventative measure against unauthorized access to company information systems. These controls are aimed at assuring the continuity of business processes that are dependent upon automation; seek to ensure the integrity of our data; support regulatory and legislative compliance requirements; and aimed at maintaining safe and reliable service to our customers. We are in contact with U.S. federal, state and local law enforcement agencies to coordinate and improve the security of our water delivery systems and to safeguard our water supply.

Employee Matters

As of December 31, 2016, approximately 46% of our workforce is represented by unions. As of that date, we had 78 collective bargaining agreements in place with 17 different unions representing our unionized employees. Also, we have two collective bargaining agreements beyond expiration that affect approximately 100 employees, all of which are actively working under the terms of the existing agreements, and one collective bargaining agreement in its initial stage of renegotiation, affecting approximately 25 employees. During 2017, 35 of our collective bargaining agreements will expire in accordance with their terms.

Executive Officers

The following table summarizes the name, age, offices held and business experience for each of our executive officers, as of February 21, 2017:

Name	Age	Office and Experience
Susan N. Story	57	President and Chief Executive Officer. Ms. Story has served as President and Chief Executive Officer of the Company since May 2014. Ms. Story served as Senior Vice President and Chief Financial Officer of the Company from April 2013 until May 2014. Prior to joining American Water, she served as President and Chief Executive Officer of Southern Company Services, a subsidiary of Southern Company, from January 2011 until March 2013 and President and Chief Executive Officer of Gulf Power Company, also a subsidiary of Southern Company, from 2003 until December 2010. Since 2008, Ms. Story has served as a member of the board of directors of Raymond James Financial, Inc., a diversified financial services company, and as lead director since 2016. On January 24, 2017, Ms. Story was elected to the board of directors of Dominion Resources, Inc., a producer and transporter of energy.
Deborah A. Degillio	45	President, American Water Enterprises. Ms. Degillio has been President of American Water Enterprises since May 2016. From January 2015 to May 2016, Ms. Degillio served as the Company's Vice President and Treasurer. Prior to that time, Ms. Degillio served as Vice President of Finance of American Water Enterprises from November 2013 to February 2015, as a Vice President in the Company's Finance team for its Eastern Division from June 2009 until October 2013, and as Director of Financial Planning and Analysis for American Water's then Western states, from April 2007 until May 2009.
Jennifer Gambol	41	Vice President and Treasurer. Ms. Gambol has served as the Company's Vice President and Treasurer since May 2016. From February 2015 to May 2016, Ms. Gambol served as Vice President of Finance of American Water Enterprises. Prior to joining the Company, Ms. Gambol served as Vice President, Finance and Investor Relations of The J.G. Wentworth Company, a diversified financial services company focused on direct-to-consumer financing, since July 2012. From May 2003 to July 2012, Ms. Gambol held various finance, accounting and financial reporting roles at E.I. du Pont de Nemours and Company.
Brenda J. Holdnak	63	Senior Vice President of Human Resources. Dr. Holdnak has served as the Company's Senior Vice President Human Resources since January 1, 2016 and its Vice President Human Resources from January 19, 2015 to December 31, 2015. Prior to joining American Water, she served as President of Holdnak and Associates Consulting, a human resources consulting firm, from June 2014 to December 2014. Prior to that time, she served as Director of Talent Management of The Babcock & Wilcox Company, from March 2011 to June 2014. Previously, she served as Director of Change Management and Organizational Development of Medtronic, Inc. from May 2010 to March 2011 and an Executive Consultant/Principal of the Henly Consulting Group from July 2006 to January 2011. Dr. Holdnak has announced her retirement from the Company effective March 1, 2017.
Walter J. Lynch	54	Executive Vice President and Chief Operating Officer. Mr. Lynch has over 20 years of experience in the water and wastewater industry. Mr. Lynch has served as the Company's Executive Vice President and Chief Operating Officer since January 1, 2016, as Chief Operating Officer of Regulated Operations from February 26, 2010 to December 31, 2015, and President of Regulated Operations from July 2008 to December 31, 2015. Mr. Lynch joined us in 2001. In addition, Mr. Lynch is on the Board of Directors of the National Association of Water Companies and serves on its Executive Committee.

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Michael A. Sgro	58	Executive Vice President, General Counsel and Secretary. Mr. Sgro has over 20 years of experience in the water and wastewater industry. He has served as the Company's Executive Vice President, General Counsel and Secretary since January 1, 2016 and its Senior Vice President, General Counsel and Secretary from February 2015 to January 2016. Prior to that, he served as the Company's Interim General Counsel and Secretary from January 2015 until February 2015 and as Vice President, General Counsel and Secretary of American Water's Northeast Division beginning in 2002.
Mark F. Strauss	65	Senior Vice President of Corporate Strategy and Business Development. Mr. Strauss has been our Senior Vice President of Corporate Strategy and Business Development since September 2010. From December 2006 to September 2010, Mr. Strauss served as President of American Water Enterprises. In January 2016, Mr. Strauss was appointed to the Board of Directors of Fulton Financial Corporation, a Lancaster, Pennsylvania-based financial holding company, and Fulton Bank of New Jersey, its wholly owned bank subsidiary.
Linda G. Sullivan	53	Executive Vice President and Chief Financial Officer. Ms. Sullivan has served as the Company's Executive Vice President and Chief Financial Officer since January 1, 2016 and the Company's Senior Vice President and Chief Financial Officer from May 2014 to December 31, 2015. Prior to joining American Water, Ms. Sullivan served as the Senior Vice President and Chief Financial Officer of Southern California Edison Company, a subsidiary of Edison International, from July 2009 until May 2014, and Vice President and Controller of both Edison International and Southern California Edison Company, from July 2004 until July 2009. Ms. Sullivan is a Certified Public Accountant (inactive) and a Certified Management Accountant. In addition, Ms. Sullivan serves on the board of directors of University of Maryland University College Ventures and serves on its Audit & Finance Committee.
Lloyd "Aldie" Warnock	57	Senior Vice President of External Affairs, Communications and Public Policy. Mr. Warnock has served as the Company's Senior Vice President of External Affairs, Communications and Public Policy since April 2014. Prior to joining the Company, he served as Senior Vice President of External Affairs at Midwest Independent System Operator, Inc., a non-profit, self-governing organization, from March 2011 to April 2014. Prior to that, he served as Vice President of External Affairs for Allegheny Energy, Inc. from December 2005 to February 2011 and Senior Vice President of Governmental and Regulatory Affairs at Mirant Corporation from July 2004 to November 2005.
Melissa K. Wikle	51	Vice President and Controller. Ms. Wikle joined the Company in July 2016 as its Vice President and Controller, and assumed the duties of the Company's principal accounting officer in August 2016. Prior to joining the Company, Ms. Wikle served as Corporate Controller and Chief Accounting Officer of Columbus McKinnon Corporation, a publicly-traded worldwide designer, manufacturer and marketer of material handling products, systems and services, since April 2011. Ms. Wikle is a Certified Public Accountant.

Each executive officer is elected annually by the Board of Directors and serves until his or her respective successor has been elected and qualified or his or her earlier death, resignation or removal.

Available Information

We are subject to the reporting requirements of the Exchange Act. We file or furnish annual, quarterly and current reports, proxy statements and other information with the SEC. You may obtain a copy of our annual reports on Form 10-K, our quarterly reports on Form 10-Q or our current reports on Form 8-K, or any amendments to them, that are filed with or furnished to the SEC, free of charge, from the Investor Relations section of our website, <https://amwater.com>, as soon as reasonably practicable after we file or furnish the information to the SEC. Information contained on our website shall not be deemed incorporated into, or to be a part of, this report, and any website references included herein are not intended to be made through active hyperlinks. We recognize this website as a key channel of distribution to reach public investors and as a means of disclosing material non-public information to comply with our disclosure obligations under SEC Regulation FD.

The American Water corporate governance guidelines and the charters for each of the standing committees of the Board of Directors, together with the American Water Code of Ethics and additional information regarding our corporate governance, are available on our website, <https://amwater.com>, and will be made available, without charge, in print to any stockholder who requests such documents from our Investor Relations Department, American Water Works Company, Inc., 1025 Laurel Oak Road, Voorhees, NJ, 08043.

ITEM 1A. RISK FACTORS

We operate in a market and regulatory environment that involves significant risks, many of which are beyond our control. In addition to the other information included or incorporated by reference in this Form 10-K, the following factors should be considered in evaluating our business and future prospects. Any of the following risks, either alone or taken together, could materially and adversely affect our business, financial position, results of operations, cash flows and liquidity.

Risks Related to Our Industry and Business Operations

Our utility operations are subject to extensive economic regulation by state PUCs and other regulatory agencies, which significantly affects our business, financial condition, results of operations and cash flows. Our utility operations also may be subject to fines, penalties and other sanctions for the inability to meet these regulatory requirements.

Our Regulated Businesses provide water and wastewater services to our customers through subsidiaries that are subject to economic regulation by state PUCs. Economic regulation affects the rates we charge our customers and has a significant impact on our business and results of operations. Generally, the state PUCs authorize us to charge rates that they determine are sufficient to recover our prudently incurred operating expenses, including, but not limited to, operating and maintenance costs, depreciation, financing costs and taxes, and provide us the opportunity to earn an appropriate rate of return on invested capital.

Our ability to successfully implement our business plan and strategy depends on the rates authorized by the various state PUCs. We periodically file rate increase applications with state PUCs. The ensuing administrative process may be lengthy and costly. Our rate increase requests may or may not be approved, or may be partially approved, and any approval may not occur in a timely manner. Moreover, a PUC may not approve a rate request to an extent that is sufficient to:

•cover our expenses, including purchased water and costs of chemicals, fuel and other commodities used in our operations;

•enable us to recover our investment; and

•provide us with an opportunity to earn an appropriate rate of return on our investment.

Approval of the PUCs is also required in connection with other aspects of our utilities' operations. State PUCs are empowered to impose financial penalties, fines and other sanctions for non-compliance with applicable rules and regulations. Our utilities are also required to have numerous permits, approvals and certificates from the PUCs that regulate their businesses and authorize acquisitions. Although we believe that each utility subsidiary has obtained or sought renewal of the material permits, approvals and certificates necessary for its existing operations, we are unable to predict the impact that future regulatory activities may have on our business.

In any of these cases, our business, financial condition, results of operations, cash flows and liquidity may be adversely affected. Even if rates are sufficient, we face the risk that we will not achieve the rates of return on our invested capital to the extent permitted by state PUCs. This could occur if certain conditions exist, including but not limited to, if water usage is less than the level anticipated in establishing rates, or if our investments or expenses prove to be higher than the level estimated in establishing rates.

Our operations and the quality of water we supply are subject to extensive environmental, water quality and health and safety laws and regulations. Compliance with increasingly stringent laws and regulations could impact our operating costs; and violations of such laws and regulations could subject us to substantial liabilities and costs, as well as damage to our reputation.

Our water and wastewater operations and the operations of our Market-Based Businesses are subject to extensive federal, state and local laws and regulations and, in the case of our Canadian operations, Canadian laws and regulations that govern the protection of the environment, health and safety, the quality of the water we deliver to our customers, water allocation rights, and the manner in which we collect, treat, discharge and dispose of wastewater. These requirements include CERCLA, the Clean Water Act and the Safe Drinking Water Act, and similar state and Canadian laws and regulations. For example, CERCLA authorizes the EPA to issue orders and bring enforcement actions to compel responsible parties to investigate and take remedial actions with respect to actual or threatened releases of hazardous substances, and can impose joint and several liability, without regard to fault, on responsible parties for the costs thereof. We are also required to obtain various environmental permits from regulatory agencies for our operations.

In addition, state PUCs also set conditions and standards for the water and wastewater services we deliver. If we deliver water or wastewater services to our customers that do not comply with regulatory standards, or otherwise violate environmental laws, regulations or permits, or other health and safety and water quality regulations, we could incur substantial fines, penalties or other sanctions or costs, as well as damage to our reputation. In the most serious cases, regulators could reduce requested rate increases or force us to discontinue operations and sell our operating assets to another utility or to a municipality. Given the nature of our business which, in part, involves supplying water for human consumption, any potential non-compliance with, or violation of, environmental, water quality and health and safety laws or regulations would likely pose a more significant risk to us than to a company not similarly involved in the water and wastewater industry.

We incur substantial operating and capital costs on an ongoing basis to comply with environmental, water quality and health and safety laws and regulations. These laws and regulations, and their enforcement, generally have become more stringent over time, and new or stricter requirements could increase our costs. Although we may seek to recover ongoing compliance costs in our rates, there can be no guarantee that the various state PUCs or similar regulatory bodies that govern our Regulated Businesses would approve rate increases that would enable us to recover such costs or that such costs will not materially and adversely affect our financial condition, results of operations, cash flows and liquidity.

We may also incur liabilities if, under environmental laws and regulations, we are required to investigate and clean up environmental contamination at our properties, including potential spills of hazardous chemicals, such as chlorine, which we use to treat water, or at off-site locations where we have disposed of waste or caused an adverse environmental impact. The discovery of previously unknown conditions, or the imposition of cleanup obligations in the future, could result in significant costs and could adversely affect our financial condition, results of operations, cash flows and liquidity. Such remediation costs may not be covered by insurance and may make it difficult for us to secure insurance at acceptable rates in the future.

Attention is being given to emerging contaminants, including, without limitation, chemicals and other substances that currently do not have any regulatory standard in drinking water or have been recently created or discovered (including by means of scientific achievements in the analysis and detection of trace amounts of substances). Examples of sources of emerging contaminants include, but are not limited to, newly created chemical compounds (including, for example, perfluorinated compounds and manufactured nanomaterials); human and veterinary products; microbes, viruses, amoebae and other pathogens; and residual by-products of disinfection. We rely upon governmental agencies to set appropriate regulatory standards to protect the public from these and other contaminants. Our role is to meet or

surpass those standards, when established. In some of our states, PUCs may disapprove of cost recovery, in whole or in part, for implementation of treatment infrastructure for an emerging contaminant in the absence of a regulatory standard. Furthermore, while we seek to protect our drinking water from these contaminants by implementing multi-step treatment processes, reviewing research on these contaminants, and developing appropriate mitigation techniques for new contaminants where feasible or appropriate, given the rapid pace at which emerging contaminants are being created and/or discovered, we may not be able to detect and/or mitigate all such substances in our drinking water system, which could have a material adverse impact on our financial condition, results of operations and reputation. In addition, we believe emerging contaminants may form the basis for additional or increased federal or state regulatory initiatives and requirements in the future, which could significantly increase the cost of our operations.

Limitations on availability of water supplies or restrictions on our use of water supplies as a result of government regulation or action may adversely affect our access to sources of water, our ability to supply water to customers or the demand for our water services.

Our ability to meet the existing and future demand of our customers depends on the availability of an adequate supply of water. As a general rule, sources of public water supply, including rivers, lakes, streams and groundwater aquifers, are held in the public trust and are not owned by private interests. As a result, we typically do not own the water that we use in our operations, and the availability of our water supply is established through allocation rights (determined by legislation or court decisions) and passing-flow requirements set by governmental entities. Passing-flow requirements set minimum volumes of water that must pass through specified water sources, such as rivers and streams, in order to maintain environmental habitats and meet water allocation rights of downstream users. Allocation rights are imposed to ensure sustainability of major water sources and passing-flow requirements are most often imposed on source waters from smaller rivers, lakes and streams. These requirements, which can change from time to time, may adversely impact our water supply. Supply issues, such as drought, overuse of sources of water, the protection of threatened species or habitats, or other factors may limit the availability of ground and surface water.

For example, in our Monterey County, California operations, we are seeking to augment our sources of water supply, principally to comply with an October 20, 2009 cease and desist order (the “2009 Order”), as amended by an order in July 2016 (the “2016 Order”), of the SWRCB that requires Cal Am to significantly decrease its diversions from the Carmel River in accordance with a reduction schedule which was extended to December 31, 2021 (the “2021 Deadline”). We are also required to augment our Monterey County sources of water supply to comply with the requirements of the Endangered Species Act. We cannot predict whether Cal Am will be able to secure alternative sources of water, or if Cal Am will be exposed to liabilities if it is unable to meet the 2021 Deadline under the 2009 Order and the 2016 Order. If Cal Am or any of our other subsidiaries are unable to secure an alternative source of water, or if other adverse consequences result from the events described above, our business, financial condition, results of operations and cash flows could be adversely affected. See Item 3—Legal Proceedings in this report, which includes additional information regarding this matter.

The current regulatory rate setting process may result in a significant delay, also known as “regulatory lag,” from the time that we invest in infrastructure improvements, incur increased operating expenses or experience declining water usage, to the time at which we can seek to address these events in rate case applications; our inability to minimize regulatory lag could adversely affect our business.

There is typically a delay, known as “regulatory lag,” between the time one of our regulated subsidiaries makes a capital investment or incurs an operating expense increase and the time when those costs are reflected in rates. In addition, billings permitted by state PUCs typically are, to a considerable extent, based on the volume of water usage in addition to a minimum base rate. Thus, we may experience regulatory lag between the time our revenues are affected by declining usage and the time we are able to adjust the rate per gallon of usage to address declining usage. Our inability to reduce this regulatory lag could have an adverse effect on our financial condition, results of operations, cash flows and liquidity.

We endeavor to reduce regulatory lag by pursuing constructive regulatory policies. For example, eight state PUCs permit rates to be adjusted outside of the rate case application process through surcharges that address certain capital investments, such as replacement of aging infrastructure. These surcharges are adjusted periodically based on factors such as project completion or future budgeted expenditures, and specific surcharges are eliminated once the related capital investment is incorporated in new PUC approved rates. Furthermore, in setting rates, a number of state PUCs allow us to use future test years, which extend beyond the date a rate request is filed to allow for current or projected revenues, expenses and investments to be reflected in rates on a more timely basis. Other examples of such programs include states that allow us to increase rates for certain cost increases that are beyond our control, such as purchased

water costs, property or other taxes, or power, conservation, chemical or other expenditures. These surcharge mechanisms enable us to adjust rates in less time after costs have been incurred than would be the case under the rate case application process. While these programs have reduced regulatory lag in several of our regulated states, we continue to seek expansion of programs to reduce regulatory lag in those jurisdictions that have not approved such programs. Furthermore, PUCs may fail to adopt new surcharge programs and existing programs may not continue in their current form, or at all. Although we intend to continue our efforts to expand state PUC approval of surcharges to address issues of regulatory lag, our efforts may not be successful, or even if successful they may not completely address our regulatory lag, in which case our business, financial condition, results of operations, cash flows and liquidity may be materially and adversely affected.

Changes in laws and regulations and changes in certain agreements can significantly affect our business, financial condition, results of operations, cash flows and liquidity.

New legislation, regulations, government policies or court decisions can materially affect our operations. The individuals who serve as regulators are elected or political appointees. Therefore, elections which result in a change of political administration or new appointments may also result in changes in the individuals who serve as regulators and the policies of the regulatory agencies that they serve. New laws or regulations, new interpretations of existing laws or regulations, changes in agency policy, including those made in response to shifts in public opinion, or conditions imposed during the regulatory hearing process could have the following consequences, among others:

- making it more difficult for us to raise our rates and, as a consequence, to recover our costs or earn our expected rates of return;
- changing the determination of the costs, or the amount of costs, that would be considered recoverable in rate cases;
- restricting our ability to terminate our services to customers who owe us money for services previously provided or limiting our bill collection efforts;
- requiring us to provide water or wastewater services at reduced rates to certain customers;
- limiting or restricting our ability to acquire water or wastewater systems, purchase or dispose of assets or issue securities, or making it less cost-effective for us to do so;
- negatively impacting the deductibility of expenses under federal or state tax laws, the amount of tax credits or tax abatement benefits that may be available, the amount of taxes owed, or the ability to utilize our net operating loss carryforwards;
- changing regulations that affect the benefits we expected to receive when we began offering services in a particular area;
- increasing the costs associated with complying with environmental, health, safety and water quality regulations to which our operations are subject;
- changing or placing additional limitations on change in control requirements relating to any concentration of ownership of our common stock;
 - making it easier for governmental entities to convert our assets to public ownership via eminent domain;
- placing limitations, prohibitions or other requirements with respect to the sharing of information and participation in transactions by or between a regulated subsidiary and us or our other affiliates, including Service Company and any of our other subsidiaries;
- restricting or prohibiting our extraction of water from rivers, streams, reservoirs or aquifers; and
- revoking or altering the terms of the certificates of public convenience and necessity (or similar authorizations) issued to us by state PUCs.

Any of the foregoing consequences could have an adverse effect on our business, financial condition, results of operations, cash flows and liquidity.

Furthermore, the results of the November 2016 Federal, state and local elections have generated some uncertainty as to certain future new or changes in existing laws, rules or regulations, or administrative interpretations thereof. At this time, we are unable to determine or predict the potential impacts, if any, of such new or amended laws, rules or regulations, or interpretations thereof, to the extent they may be ultimately enacted, adopted or issued, on us or our businesses, financial condition and results of operations.

Service disruptions caused by severe weather conditions or natural disasters may disrupt our operations and economic conditions may reduce the demand for water services, either of which could adversely affect our financial condition, results of operations, cash flows and liquidity.

Service interruptions due to severe weather and other natural events are possible across all our businesses. These include storms, freezing conditions, high wind conditions, hurricanes, tornadoes, earthquakes, landslides, coastal and intercoastal floods or high water conditions, including those in or near designated flood plains, severe electrical storms and solar flares. Weather and other natural events such as these may affect the condition or operability of our facilities, limiting or preventing us from delivering water or wastewater services to our customers, or requiring us to make substantial capital expenditures to repair any damage. In addition, adverse economic conditions can cause our customers, particularly industrial customers, to curtail operations. A curtailment of operations by an industrial customer would typically result in reduced water usage. In more severe circumstances, the decline in usage could be permanent. Any decrease in demand resulting from difficult economic conditions could adversely affect our financial condition and results of operations.

Government restrictions on water use may also result in decreased use of water services, even if our water supplies are sufficient to serve our customers, which may adversely affect our financial condition, results of operations and cash flows. Seasonal drought conditions that may impact our water services are possible across all of our service areas. Governmental restrictions imposed in response to a drought may apply to all systems within a region independent of the supply adequacy of any individual system. As examples, drought conditions have persisted in California over a five-year period, and, more recently, have been declared in New Jersey. In May 2016, the Governor of California issued an executive order that retained existing water use restrictions, but required state agencies to adjust, among other things, water conservation regulations through the end of January 2017 to account for differentiation in water supply conditions throughout the state, to adopt new water use targets as part of a permanent framework for urban water usage and conservation, to prohibit permanently practices that waste potable water and to direct actions that minimize significant water system leaks. Moreover, in October 2016, a drought warning was declared in 14 northern and central New Jersey counties by the New Jersey Department of Environmental Protection, and while mandatory use restrictions have not presently been adopted, residents, business and other institutions in the affected areas have been urged to use water sparingly. While expenses incurred in implementing water conservation and rationing plans may generally be recoverable provided the relevant PUC determines they were reasonable and prudent, we cannot assure that any such expenses incurred will, in fact, be fully recovered. Moreover, reductions in water consumption, including those resulting from installation of equipment or changed consumer behavior, may persist even after drought restrictions are repealed and the drought has ended, which could adversely affect our business, financial condition, results of operations and cash flows.

Some scientific experts are predicting a worsening of weather volatility in the future. Changing severe weather patterns could require additional expenditures to reduce the risk associated with any increasing storm, flood and drought occurrences. The issue of climate change is receiving increased attention worldwide. Many climate change predictions, if true, present several potential challenges to water and wastewater utilities, such as: increased frequency and duration of droughts, increased precipitation and flooding, potential degradation of water quality, and changes in demand for services. Because of the uncertainty of weather volatility related to climate change, we cannot predict its potential impact on our business, financial condition, results of operations, cash flows and liquidity.

Our Regulated Businesses require significant capital expenditures and may suffer if we fail to secure appropriate funding to make investments, or if we experience delays in completing major capital expenditure projects.

The water and wastewater utility business is capital intensive. We invest significant amounts of capital to add, replace and maintain property, plant and equipment. In 2016, we invested \$1.3 billion in net Company-funded capital improvements. The level of capital expenditures necessary to maintain the integrity of our systems could increase in the future. We expect to fund capital improvement projects using cash generated from operations, borrowings under our revolving credit facility and commercial paper programs and issuances of long-term debt. We may not be able to access the debt and equity capital markets, when necessary or desirable to fund capital improvements on favorable terms or at all.

In addition, we could be limited in our ability to both pursue growth and pay dividends in accordance with our dividend policy. In order to fund construction expenditures, acquisitions, principal and interest payments on our indebtedness, and dividends at the level currently anticipated under our dividend policy, we expect that we will need additional financing.

The ability to obtain financing at reasonable rates is contingent upon our credit ratings and general market conditions. If we do not obtain sufficient financing, we could be unable to maintain our existing property, plant and equipment, fund our capital investment strategies, meet our growth targets and expand our rate base to enable us to earn satisfactory future returns on our investments. Even with adequate financial resources to make required capital expenditures, we face the additional risk that we will not complete our major capital projects on time, as a result of

construction delays, permitting delays, labor shortages or other disruptions, environmental restrictions, or other obstacles. Each of these outcomes could adversely affect our financial condition, results of operations and cash flows.

Weather conditions could adversely affect demand for our water service and our revenues.

Demand for our water during the warmer months, typically in the summer, is generally greater than during other months, due primarily to increased water usage for irrigation systems, swimming pools, cooling systems and other applications. Throughout the year, and particularly during typically warmer months, demand tends to vary with temperature, rainfall levels and rainfall frequency. In the event that temperatures during the typically warmer months are cooler than normal, or if there is more rainfall than normal, the demand for our water may decrease and adversely affect our revenues.

Regulatory and environmental risks associated with the collection, treatment and disposal of wastewater may impose significant costs.

The wastewater collection, treatment and disposal operations of our subsidiaries are subject to substantial regulation and involve significant environmental risks. If collection, treatment or disposal systems fail, overflow, or do not operate properly, untreated wastewater or other contaminants could spill onto nearby properties or into nearby streams and rivers, causing damage to persons or property, injury to aquatic life and economic damages. This risk is most acute during periods of substantial rainfall or flooding, which are the main causes of sewer overflow and system failure. Liabilities resulting from such damage could adversely and materially affect our business, financial condition, results of operations and cash flows. Moreover, if we are deemed liable for any damage caused by overflow or disposal operations, our losses might not be covered by insurance, and such losses may make it difficult for us to secure insurance at acceptable rates in the future.

Contamination of our sources of water or water service provided to our customers could result in service limitations and interruptions and exposure to substances not typically found in potable water supplies, and could subject us and our subsidiaries to reduction in usage and other responsive obligations, government enforcement actions, damage to our reputation and private litigation.

The water supplies that flow into our treatment plants or are delivered through our distribution system, or the water service that is provided to our customers, are subject to contamination, including, by among other items, contamination from naturally-occurring compounds, chemicals in groundwater systems, pollution resulting from man-made sources (such as perchlorate, methyl tertiary butyl ether, lead and other materials, chemical spills or other accidents that result in contaminants entering the water source), and possible terrorist attacks. In addition, new categories of these substances continue to emerge in the water treatment industry. If one of our water supplies or the water service provided to our customers is contaminated, depending on the nature of the contamination, we may have to take responsive actions that could include, among other things (1) continuing limited use of the water supply under a “Do Not Use” protective order that enables continuation of basic sanitation and essential fire protection, or (2) interrupting the use of that water supply. If service is disrupted, our financial condition, results of operations, cash flows, liquidity and reputation may be adversely affected. In addition, we may incur significant costs in order to treat the contaminated source through expansion of our current treatment facilities, or development of new treatment methods. We may be unable to recover costs associated with treating or decontaminating water supplies through insurance, customer rates, tariffs or contract terms. Any recovery of these costs that we are able to obtain through regulatory proceedings or otherwise may not occur in a timely manner. Moreover, we could be subject to claims for damages arising from government enforcement actions or toxic tort or other lawsuits arising out of an interruption of service or human exposure to hazardous substances in our drinking water and water supplies.

In this regard, on January 9, 2014, a chemical storage tank owned by Freedom Industries, Inc. leaked two substances into the Elk River near the West Virginia-American Water Company (“WVAWC”) treatment plant intake in Charleston, West Virginia. On October 31, 2016, the U.S. District Court for the Southern District of West Virginia approved the preliminary principles, terms and conditions of a binding global agreement in principle to settle claims arising out the Freedom Industries chemical spill (the “Settlement”). Under the terms of the Settlement, WVAWC has agreed that it will not seek rate recovery from the Public Service Commission of West Virginia for the amounts paid by WVAWC, net of insurance recoveries, under the Settlement. See Item 3—Legal Proceedings, which includes additional information regarding this matter.

Since we engage in the business of providing water service to our customers, contamination of the water supply, or the water service provided to our customers, can result in substantial injury or damage to our customers, employees or others and we could be exposed to substantial claims and litigation. Such claims could relate to, among other things, personal injury, loss of life, business interruption, property damage, pollution, and environmental damage and may be

brought by our customers or third parties. Litigation and regulatory proceedings are subject to inherent uncertainties and unfavorable rulings can and do occur. Negative impacts to our reputation may occur even if we are not liable for any contamination or other environmental damage or the consequences arising out of human exposure to contamination or hazardous substances in the water or water supplies. In addition, insurance coverage may not cover all or a portion of these losses, and are subject to deductibles and other limitations. Pending or future claims against us could have a material adverse impact on our business, financial condition, results of operations and cash flows.

We may sustain losses that exceed or are excluded from our insurance coverage or for which we are not insured.

We maintain insurance coverage as part of our overall legal and risk management strategy to minimize potential liabilities arising from our utility operations, as well as the operations of our Market-Based Businesses. Our insurance programs have varying coverage limits, exclusions and maximums, and insurance companies may seek to deny claims we might make. Generally, our insurance policies cover property damage, worker's compensation, employer's liability, general liability, terrorism risks and automobile liability. Each policy includes deductibles or self-insured retentions and policy limits for covered claims. As a result, we may sustain losses that exceed or that are excluded from our insurance coverage or for which we are not insured.

Although in the past we have been generally able to cover our insurance needs, there can be no assurances that we can secure all necessary or appropriate insurance in the future, or that such insurance can be economically secured. For example, catastrophic events can result in decreased coverage limits, more limited coverage, increased premium costs or deductibles.

We are subject to adverse publicity and reputational risks, which make us vulnerable to negative customer perception and could lead to increased regulatory oversight or other sanctions.

Water and wastewater utilities, including our regulated subsidiaries, have a large customer base and as a result are exposed to public criticism regarding, among other things, the reliability of their water and wastewater services, the quality of water provided, and the amount, timeliness, accuracy and format of bills that are provided for such services. Adverse publicity and negative consumer sentiment may render legislatures and other governing bodies, state PUCs and other regulatory authorities, and government officials less likely to view companies such as American Water and its regulated subsidiaries in a favorable light, and may cause American Water and its regulated subsidiaries to be susceptible to less favorable legislative and regulatory outcomes, as well as increased regulatory oversight and more stringent regulatory requirements. Unfavorable regulatory outcomes may include the enactment of more stringent laws and regulations governing our operations, as well as fines, penalties or other sanctions or requirements. The imposition of any of the foregoing could have a material negative impact on American Water and each of our regulated subsidiaries' business, financial condition, results of operations and cash flows.

The failure of, or the requirement to repair, upgrade or dismantle, any of our dams may adversely affect our financial condition results of operations, cash flows and liquidity.

The properties of our Regulated Businesses segment include 80 dams, a failure of any of which could result in personal injury and downstream property damage for which we may be liable. The failure of a dam would also adversely affect our ability to supply water in sufficient quantities to our customers and could adversely affect our financial condition and results of operations. Any losses or liabilities incurred due to a failure of one of our dams might not be covered by insurance policies or be recoverable in rates, and such losses may make it difficult for us to secure insurance at acceptable rates in the future.

We also are required from time to time to decommission, repair or upgrade the dams that we own. The cost of such repairs or upgrades can be and has been material. The federal and state agencies that regulate our operations may adopt rules and regulations requiring us to dismantle our dams, which also could entail material costs. Although in most cases, the PUC has permitted recovery of expenses and capital investment related to dam rehabilitation, we might not be able to recover costs of repairs, upgrades or dismantling through rates in the future. The inability to recover these costs or delayed recovery of the costs as a result of regulatory lag can affect our financial condition, results of operations, cash flows and liquidity.

Any failure of our network of water and wastewater pipes and water reservoirs could result in losses and damages that may affect our financial condition and reputation.

Our operating subsidiaries distribute water and collect wastewater through an extensive network of pipes and storage systems located across the United States. A failure of major pipes or reservoirs could result in injuries and property damage for which we may be liable. The failure of major pipes and reservoirs may also result in the need to shut down some facilities or parts of our network in order to conduct repairs. Such failures and shutdowns may limit our ability to supply water in sufficient quantities to our customers and to meet the water and wastewater delivery requirements prescribed by government regulators, including state PUCs with jurisdiction over our operations, and adversely affect our financial condition, results of operations, cash flows, liquidity and reputation. Any business interruption or other losses might not be covered by insurance policies or be recoverable in rates, and such losses may make it difficult for

us to secure insurance at acceptable rates in the future. Moreover, to the extent such business interruptions or other losses are not covered by insurance, they may not be recovered through rate adjustments.

An important part of our growth strategy is the acquisition of water and wastewater systems. Any further acquisitions we undertake may involve risks. Further, competition for acquisition opportunities from other regulated utilities, governmental entities, and strategic and financial buyers may hinder our ability to grow our business.

An important element of our growth strategy is the acquisition of water and wastewater systems in order to broaden our current, and move into new, service areas. We may not be able to acquire other businesses if we cannot identify suitable acquisition opportunities or reach mutually agreeable terms with acquisition candidates. Further, competition for acquisition opportunities from other regulated utilities, governmental entities, and strategic and financial buyers may hinder our ability to expand our business.

The negotiation of potential acquisitions as well as the integration of acquired businesses with our existing operations could require us to incur significant costs and cause diversion of our management's time and resources. Future acquisitions by us could result in, among other things:

- incurrence or assumption of debt, contingent liabilities and environmental liabilities of or with respect to an acquired business, including liabilities that were unknown at the time of acquisition;
- failure to recover acquisition premiums;
- unanticipated capital expenditures;
- issuances of our equity securities;
- failure to maintain effective internal control over financial reporting;
- recording goodwill and other intangible assets at values that ultimately may be subject to impairment charges;
- fluctuations in quarterly results;
- unanticipated acquisition-related expenses;
- failure to realize anticipated benefits, such as cost savings and revenue enhancements; and
- difficulties in assimilating personnel, benefits, services and systems.

Some or all of these items could have a material adverse effect on our business and our ability to finance our business, pay dividends and to comply with regulatory requirements. The businesses we acquire in the future may not achieve anticipated sales and profitability, and any difficulties we encounter in the integration process could interfere with our operations, reduce our operating margins and adversely affect our internal control over financial reporting.

We compete with governmental entities, other regulated utilities, and strategic and financial buyers, for acquisition opportunities. If consolidation becomes more prevalent in the water and wastewater industries and competition for acquisitions increases, the prices for suitable acquisition candidates may increase to unacceptable levels and limit our ability to expand through acquisitions. In addition, our competitors may impede our growth by purchasing water utilities adjacent to or near our existing service areas, thereby impairing our ability to geographically expand the affected service areas. Competing governmental entities, utilities, environmental or social activist groups, and strategic and financial buyers have challenged, and may in the future challenge, our efforts to acquire new companies and/or service areas. Our growth could be hindered if we are not able to compete effectively for new companies and/or service areas with other companies or strategic and financial buyers that have lower costs of operations. Any of these risks may adversely affect our business, financial condition, results of operations and cash flows.

The assets of our Regulated Businesses are subject to condemnation through eminent domain or other similar authorized process.

Municipalities and other government subdivisions have historically been involved in the provision of water and wastewater services in the United States, and organized efforts may arise from time to time in one or more of the service areas in which our Regulated Businesses operate to convert our assets to public ownership and operation through exercise of the governmental power of eminent domain, or another similar authorized process. Should a municipality or other government subdivision or a citizen group seek to acquire our assets through eminent domain or such other process, either directly or indirectly as a result of a citizen petition, we may resist the acquisition.

Contesting an exercise of condemnation through eminent domain or other process, or responding to a citizen petition, may result in costly legal proceedings and may divert the attention of management of the affected Regulated Business from the operation of its business. Moreover, our efforts to resist the condemnation or process may not be successful.

If a municipality or other government subdivision succeeds in acquiring the assets of one or more of our Regulated Businesses through eminent domain or other process, there is a risk that we will not receive adequate compensation for the business, that we will not be able to keep the compensation, or that we will not be able to divest the business without incurring significant one-time charges.

We rely on technology systems to facilitate the management of our business and customer and supplier relationships, and a disruption of these systems could adversely affect our business.

Our technology systems, particularly our operational technology and IT systems, are an integral part of our business, and any disruption of these systems could significantly limit our ability to manage and operate our business efficiently, which, in turn, could cause our business and competitive position to suffer and adversely affect our results of operations. For example, we depend on these systems to bill customers, process orders, provide customer service, manage certain plant operations and construction projects, manage our financial records, track assets, remotely monitor certain of our plants and facilities and manage human resources, inventory and accounts receivable collections. These systems also enable us to purchase products from our suppliers and bill customers on a timely basis, maintain cost-effective operations and provide service to our customers. While we continue to implement, upgrade and replace our operational technology and IT systems, a number of our mission- and business-critical IT systems are older, such as our SCADA (supervisory control and data acquisition) system.

Although we do not believe that these systems are at a materially greater risk of failure or cybersecurity incidents than other similar organizations, our operational technology and IT systems remain vulnerable to damage or interruption from:

- power loss, computer systems failures, and internet, telecommunications or data network failures;
- operator negligence or improper operation by, or supervision of, employees;
- physical and electronic loss of customer data due to security breaches, cyber attacks, misappropriation and similar events;
- computer viruses;
- intentional security breaches, hacking, denial of services actions, misappropriation of data and similar events; and
- hurricanes, tornadoes, fires, floods, earthquakes and other natural disasters.

These events may result in physical and electronic loss of customer or financial data, security breaches, misappropriation and other adverse consequences. In addition, a lack of or inadequate levels of redundancy for certain of these systems, including billing systems, could exacerbate the impact of any of these events on us. We may not be successful in developing or acquiring technology that is competitive and responsive to the needs of our business, and we might lack sufficient resources to make the necessary upgrades or replacements of outdated existing technology to enable us to continue to operate at our current level of efficiency.

We may be subject to physical and/or cyber attacks.

As operators of critical infrastructure, we may face a heightened risk of physical and/or cyber attacks. Our water and wastewater systems may be vulnerable to disability or failures as a result of physical or cyber acts of war or terrorism, vandalism or other causes. Our operational technology and IT systems may be vulnerable to unauthorized access due to hacking, viruses, acts of war or terrorism, and other causes. Unauthorized access to confidential information located or stored on these systems could negatively and materially impact our customers, employees, suppliers and other third parties. While we have instituted certain safeguards to protect our operational technology and IT systems, those safeguards may not always be effective due to the evolving nature of cyber attacks and cyber vulnerabilities. We cannot guarantee that such protections will be completely successful in the event of a cyber attack.

If, despite our security measures, a significant physical attack or cyber breach occurred, we could have our operations disrupted, property damaged, and customer and other confidential information stolen; experience substantial loss of revenues, response costs, and other financial loss; and be subject to increased regulation, litigation, and damage to our reputation, any of which could have a negative impact on our business, results of operations and cash flows. These types of events, either impacting our facilities or the industry in general, could also cause us to incur additional security and insurance related costs.

In addition, in the ordinary course of business, we collect and retain sensitive information, including personally identifiable information, about our customers and employees. In many cases, we outsource administration of certain functions to vendors that could be targets of cyber attacks. Any theft, loss and/or fraudulent use of customer, employee or proprietary data as a result of a cyber attack could subject us to significant litigation, liability and costs, as well as adversely impact our reputation with customers and regulators, among others.

Our inability to efficiently upgrade and improve our operational technology and IT systems, or implement new systems, could result in higher than expected costs or otherwise adversely impact our internal controls environment, operations and profitability.

Upgrades and improvements to computer systems and networks, or the implementation of new systems, may require substantial amounts of management's time and financial resources to complete, and may also result in system or network defects or operational errors due to multiple factors, including employees' ability to effectively use the new or upgraded system. Over the past several years,

we have implemented, and have recently implemented with respect to our American Water Enterprises business, improvements to our business processes, and have installed new, and upgraded existing, technology systems. These efforts support our broader strategic initiatives and are intended to optimize workflow, improve our operations and enhance our customer service capabilities. Any technical or other difficulties in upgrading and improving existing or implementing new technology systems may increase costs beyond those anticipated and have an adverse or disruptive effect on our operations and reporting processes, including our internal control over financial reporting. We may also experience difficulties consolidating our current systems and implementing new or upgraded systems together with existing systems, which may impact our ability to serve our customers effectively or efficiently. Although we make efforts to minimize any adverse impact on our controls, business and operations, we cannot assure that all such impacts have been or will be mitigated, and any such impacts could harm our business (individually or collectively) and have a material adverse effect on our results of operations, financial condition and cash flows.

Our business has inherently dangerous workplaces. If we fail to maintain safe work sites, we can be exposed to not only people impacts but also to financial losses such as penalties and other liabilities.

Our safety record is critical to our reputation. We maintain health and safety standards to protect our employees, customers, vendors and the public. Although we intend to adhere to such health and safety standards and aim for zero injuries, it is extremely difficult to avoid accidents at all times.

Our business sites, including construction and maintenance sites, often put our employees and others in close proximity with large pieces of equipment, moving vehicles, pressurized water, underground trenches and vaults, chemicals and other regulated materials. On many sites we are responsible for safety and, accordingly, must implement safety procedures. If we fail to implement such procedures or if the procedures we implement are ineffective or are not followed by our employees or others, our employees and others may be injured or die. Unsafe work sites also have the potential to increase employee turnover and raise our operating costs. Any of the foregoing could result in financial losses, which could have a material adverse impact on our business, financial condition, results of operations and cash flows.

In addition, our operations can involve the handling and storage of hazardous chemicals, which, if improperly handled, stored or disposed of, could subject us to penalties or other liabilities. We are also subject to regulations dealing with occupational health and safety. Although we maintain functional employee groups whose primary purpose is to ensure we implement effective health, safety, and environmental work procedures throughout our organization, including construction sites and maintenance sites, the failure to comply with such regulations or procedures could subject us to liability.

Work stoppages and other labor relations matters could adversely affect our results of operations.

As of December 31, 2016, approximately 46% of our workforce was represented by unions, and we had 78 collective bargaining agreements in place with 17 different unions representing our unionized employees. These collective bargaining agreements, including three which expired in 2016, and 15 which will expire during 2017, are subject to periodic renewal and renegotiation. We may not be able to renegotiate labor contracts on terms that are fair to us. Any negotiations or dispute resolution processes undertaken in connection with our labor contracts could be delayed or affected by labor actions or work stoppages. Labor actions, work stoppages or the threat of work stoppages, and our failure to obtain favorable labor contract terms during renegotiations, may adversely affect our financial condition, results of operations, cash flows and liquidity. While we have developed contingency plans to be implemented as necessary if a work stoppage or strike does occur, a strike or work stoppage may have a material adverse impact on our financial position, results of operations and cash flows.

Our continued success is dependent upon our ability to hire, retain, and utilize qualified personnel.

The success of our business is dependent upon our ability to hire, retain, and utilize qualified personnel, including engineers, licensed operators, water quality and other operating and craft personnel, and management professionals who have the required experience and expertise. From time to time, it may be difficult to attract and retain qualified individuals with the expertise and in the timeframe demanded for our business needs. In certain geographic areas, for example, we may not be able to satisfy the demand for our services because of our inability to successfully hire and retain qualified personnel.

In addition, as some of our key personnel approach retirement age, we need to have appropriate succession plans in place and to successfully implement such plans. If we cannot attract and retain qualified personnel or effectively implement appropriate succession plans, it could have a material adverse impact on our business, financial condition, results of operations and cash flows.

Financial and Market-Related Risks

Our indebtedness could affect our business adversely and limit our ability to plan for or respond to changes in our business, and we may be unable to generate sufficient cash flows to satisfy our liquidity needs.

As of December 31, 2016, our aggregate long-term and short-term debt balance (including preferred stock with mandatory redemption requirements) was \$7.2 billion, and our working capital (defined as current assets less current liabilities) was in a deficit position. Our indebtedness could have important consequences, including:

- limiting our ability to obtain additional financing to fund future working capital requirements or capital expenditures;
- exposing us to interest rate risk with respect to the portion of our indebtedness that bears interest at variable rates;
- limiting our ability to pay dividends on our common stock or make payments in connection with our other obligations;
- impairing our access to the capital markets for debt and equity;
- requiring that an increasing portion of our cash flows from operations be dedicated to the payment of the principal and interest on our debt, thereby reducing funds available for future operations, dividends on our common stock or capital expenditures;
- limiting our ability to take advantage of significant business opportunities, such as acquisition opportunities, and to react to changes in market or industry conditions; and
- placing us at a competitive disadvantage compared to those of our competitors that have less debt.

In order to meet our capital expenditure needs, we may be required to make additional borrowings under our revolving credit facility or issue new short-term and long-term debt securities. Moreover, additional borrowings may be required to refinance outstanding indebtedness. Debt maturities and sinking fund payments in 2017, 2018 and 2019 will be \$574 million, \$457 million and \$166 million, respectively. We can provide no assurance that we will be able to access the debt capital markets on favorable terms, if at all. Moreover, if new debt is added to our current debt levels, the related risks we now face could intensify, limiting our ability to refinance existing debt on favorable terms.

In an attempt to manage our exposure to interest rate risk associated with our issuance of variable and fixed-rate debt, we have entered into, and in the future may enter into, financial derivative instruments, including without limitation, interest rate swaps, forward starting swaps, swaptions and U.S. Treasury lock agreements. See Item 7A—Quantitative and Qualitative Disclosures About Market Risk. However, these efforts may not be effective to fully mitigate interest rate risk, and may expose us to other risks and uncertainties, including quarterly “mark to market” valuation risk associated with these instruments, that could negatively and materially affect our financial condition, results of operations and cash flows.

We will depend primarily on cash flows from operations to fund our expenses and to pay the principal and interest on our outstanding debt. Therefore, our ability to pay our expenses and satisfy our debt service obligations depends on our future performance, which will be affected by financial, business, economic, competitive, legislative (including tax initiatives and reforms, and other similar legislation or regulation), regulatory and other factors largely beyond our control. If we do not have sufficient cash flows to pay the principal and interest on our outstanding debt, we may be required to refinance all or part of our existing debt, reduce capital investments, sell assets, borrow additional funds or sell additional equity. In addition, if our business does not generate sufficient cash flows from operations, or if we are unable to incur indebtedness sufficient to enable us to fund our liquidity needs, we may be unable to plan for or respond to changes in our business, which could cause our financial condition, operating results and prospects to be affected adversely.

Our inability to access the capital or financial markets could affect our ability to meet our liquidity needs at reasonable cost and our ability to meet long-term commitments, which could adversely affect our financial condition and results of operations.

In addition to cash from operations, we rely primarily on our revolving credit facility, commercial paper programs, and the capital markets to satisfy our liquidity needs. In this regard, our principal external sources of short-term liquidity are our \$1.6 billion commercial paper program and our \$1.75 billion revolving credit facility. Our revolving credit facility expires in accordance with its terms in June 2020. We regularly use our commercial paper program under this revolving credit facility as a principal source of short-term borrowing due to the generally more attractive rates we generally can obtain in the commercial paper market. As of December 31, 2016, American Water Capital Corp. (“AWCC”), our wholly owned financing subsidiary, had no outstanding borrowings under the revolving credit facility, and had \$849 million of commercial paper outstanding and \$88 million in outstanding letters of credit.

Under the terms of our revolving credit facility, our consolidated debt cannot exceed 70% of our consolidated capitalization, as determined under the terms of the credit facility. If our equity were to decline or debt were to increase to a level that caused our debt to exceed this limit, lenders under the credit facility would be entitled to refuse any further extension of credit and to declare all of the outstanding debt under the credit facility immediately due and payable. To avoid such a default, a waiver or renegotiation of this covenant would be required, which would likely increase funding costs and could result in additional covenants that would restrict our operational and financing flexibility.

Our ability to comply with this and other covenants contained in the revolving credit facility and our other consolidated indebtedness is subject to various risks and uncertainties, including events beyond our control. For example, events that could cause a reduction in equity include, without limitation, a significant write-down of our goodwill. Even if we are able to comply with this or other covenants, the limitations on our operational and financial flexibility could harm our business by, among other things, limiting our ability to incur indebtedness or reduce equity in connection with financings or other corporate opportunities that we may believe would be in our best interests or the interests of our stockholders to complete.

Disruptions in the capital markets could also limit our ability to access capital. While our credit facility lending banks have met all of their obligations, disruptions in the credit markets, changes in our credit ratings, or deterioration of the banking industry's financial condition could discourage or prevent lenders from meeting their existing lending commitments, extending the terms of such commitments, or agreeing to new commitments. Our lenders may not meet their existing commitments and we may not be able to access the commercial paper or loan markets in the future on terms acceptable to us or at all. Furthermore, our inability to maintain, renew or replace commitments under this facility could materially increase our cost of capital and adversely affect our financial condition, results of operations and liquidity. Longer term disruptions in the capital and credit markets as a result of uncertainty, reduced financing alternatives, or failures of significant financial institutions could adversely affect our access to the liquidity needed for our business. Any significant disruption in the capital and credit markets, or financial institution failures could require us to take measures to conserve cash until the market stabilizes or until alternative financing can be arranged. Such measures could include deferring capital expenditures, reducing or suspending dividend payments, and reducing other discretionary expenditures.

Any impediments to our access to the capital markets or failure of our lenders to meet their commitments that result from financial market disruptions could expose us to increased interest expense, require us to institute cash conservation measures or otherwise adversely and materially affect our business, financial condition, results of operations, cash flows and liquidity.

American Water may be unable to meet its ongoing and future financial obligations and to pay dividends on its common stock if its subsidiaries are unable to pay upstream dividends or repay funds to American Water.

American Water is a holding company and, as such, American Water has no operations of its own. Substantially all of our consolidated assets are held by subsidiaries. American Water's ability to meet its financial obligations and to pay dividends on its common stock is primarily dependent on the net income and cash flows of its subsidiaries and their ability to pay upstream dividends to American Water or repay indebtedness to American Water. Prior to paying dividends to American Water, American Water's regulated subsidiaries must comply with applicable regulatory restrictions and financial obligations, including, for example, debt service and preferred and preference stock dividends, as well as applicable corporate, tax and other laws and regulations and agreements, and covenants and other agreements made or entered into by American Water and its subsidiaries. American Water's subsidiaries are separate legal entities and have no obligation to pay dividends to American Water. A failure or inability of any of these subsidiaries to pay such dividends or repay intercompany obligations could have a material adverse impact on American Water's liquidity and its ability to pay dividends on its common stock and meet its other obligations.

We may not be able to fully utilize our U.S. and state net operating loss carryforwards.

As of December 31, 2016, we had U.S. federal and state net operating loss (“NOL”) carryforwards of approximately \$1.2 billion and \$625 million, respectively, and management believes these NOLs are more likely than not to be recovered in the future. Our federal NOL carryforwards will begin to expire in 2028, and our state NOL carryforwards will begin to expire in 2017 and will continue to expire through 2036. Our ability to utilize our NOL carryforwards is primarily dependent upon our ability to generate sufficient taxable income. We have, in the past, been unable to utilize certain of our NOLs, and the establishment or increase of a valuation allowance in the future would reduce our deferred income tax assets and our net income.

Our actual results may differ from those estimated by management in making its assessment as to our ability to use the NOL carryforwards. Moreover, changes in income tax laws, the economy and the general business environment could affect the future utilization of the NOL carryforwards. If we are unable to fully utilize our NOL carryforwards to offset taxable income generated in the future, our financial position, results of operations and cash flows could be materially adversely affected.

We have recorded a significant amount of goodwill, and we may never realize the full value of our intangible assets, causing us to record impairments that may negatively affect our results of operations.

Our total assets include \$1.3 billion of goodwill at December 31, 2016. The goodwill is primarily associated with the acquisition of American Water by an affiliate of our previous owner in 2003 and the acquisition of E'Town Corporation by a predecessor to our previous owner in 2001, and, to a lesser extent, the acquisition of Keystone in 2015. Goodwill represents the excess of the purchase price the purchaser paid over the fair value of the net tangible and other intangible assets acquired. Goodwill is recorded at fair value on the date of an acquisition and is reviewed annually or more frequently if changes in circumstances indicate the carrying value may not be recoverable. As required by the applicable accounting rules, we have taken significant non-cash charges to operating results for goodwill impairments in the past.

We may be required to recognize an impairment of goodwill in the future due to market conditions or other factors related to our performance or the performance of an acquired business. These market conditions could include a decline over a period of time of our stock price, a decline over a period of time in valuation multiples of comparable water utilities, market price performance of our common stock that compares unfavorably to our peer companies, decreases in control premiums, or, with respect to Keystone, fluctuations in the level of exploration and production activities in the Marcellus and Utica shale regions served by Keystone, a prolonged depression of natural gas prices or other factors that negatively impact our current or future forecasts of operating results, cash flows or key assumptions. A decline in the results forecasted in our business plan due to events such as changes in rate case results, capital investment budgets or interest rates, could also result in an impairment charge. Recognition of impairments of goodwill would result in a charge to income in the period in which the impairment occurred, which may negatively affect our financial condition, results of operations and total capitalization. The effects of any such impairment could be material and could make it more difficult to maintain our credit ratings, secure financing on attractive terms, maintain compliance with debt covenants and meet expectations of our regulators.

Market conditions may impact the value of benefit plan assets and liabilities, as well as assumptions related to the benefit plans, which may require us to provide significant additional funding.

The performance of the capital markets affects the values of the assets that are held in trust to satisfy significant future obligations under our pension and postretirement benefit plans. The value of these assets is subject to market fluctuations, which may cause investment returns to fall below our projected return rates. A decline in the market value of the pension and postretirement benefit plan assets can increase the funding requirements under our pension and postretirement benefit plans. Additionally, our pension and postretirement benefit plan liabilities are sensitive to changes in interest rates. If interest rates decrease, our liabilities would increase, potentially increasing benefit expense and funding requirements. Further, changes in demographics, such as increases in life expectancy assumptions and increasing trends in health care costs may also increase our funding requirements. Future increases in pension and other postretirement costs as a result of reduced plan assets may not be fully recoverable in rates, in which case our results of operations and financial position could be negatively affected.

In addition, market factors can affect assumptions we use in determining funding requirements with respect to our pension and postretirement plans. For example, a relatively modest change in our assumptions regarding discount rates can materially affect our calculation of funding requirements. To the extent that market data compels us to reduce the discount rate used in our assumptions, our benefit obligations could be materially increased, which could adversely affect our financial position, results of operations and cash flows.

New accounting standards or changes to existing accounting standards could materially impact how we report our results of operations, cash flow and financial condition.

Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”). The SEC, the Financial Accounting Standards Board or other authoritative bodies or governmental entities may issue new pronouncements or new interpretations of existing accounting standards that may require us to change our accounting policies. These changes are beyond our control, can be difficult to predict and could materially impact how we report our results of operations, cash flow and financial condition. We could be required to apply a new or revised standard retroactively, which could adversely affect our results of operations, cash flow and financial condition.

Undetected errors in internal controls and information reporting could result in the disallowance of cost recovery and noncompliant disclosure.

Our internal controls, accounting policies and practices and internal information systems are designed to enable us to capture and process transactions and information in a timely and accurate manner in compliance with GAAP, taxation requirements, federal securities laws and regulations and other laws and regulations applicable to us. Such compliance permits us to, among other things, disclose and report financial and other information in connection with the recovery of our costs and with the reporting requirements under federal securities, tax and other laws and regulations.

We have implemented corporate governance, internal control and accounting policies and procedures in connection with the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”) and relevant SEC rules, as well as other applicable regulations. Such internal controls and policies have been and continue to be closely monitored by our management and Board of Directors to ensure continued compliance with these laws, rules and regulations. Management is also responsible for establishing and maintaining internal control over financial reporting and is required to assess annually the effectiveness of these controls. While we believe these controls, policies, practices and systems are adequate to verify data integrity, unanticipated and unauthorized actions of employees or temporary lapses in internal controls due to shortfalls in oversight or resource constraints could lead to undetected errors that could result in the disallowance of cost recovery and noncompliant disclosure and reporting. The consequences of these events could have a negative impact on our results of operations and financial condition. The inability of management to certify as to the effectiveness of these controls due to the identification of one or more material weaknesses in these controls could also increase financing costs or could also adversely affect our or AWCC’s ability to access the capital markets.

Additional Risks Related to Our Market-Based Businesses

We (excluding our regulated subsidiaries) provide performance guarantees with respect to certain obligations of our Market-Based Businesses, including financial guarantees or deposits, to our public-sector and public clients, which may seek to enforce the guarantees if our Market-Based Businesses do not satisfy these obligations.

Under the terms of some of our agreements for the provision of services to water and wastewater facilities with municipalities, other governmental entities and other customers, American Water (excluding our regulated subsidiaries) provides guarantees of specified performance obligations of our Market-Based Businesses, including financial guarantees or deposits. In the event our Market-Based Businesses fail to perform these obligations, the entity holding the guarantees may seek to enforce the performance commitments against us or proceed against the deposit. In that event, our financial condition, results of operations, cash flows, and liquidity could be adversely affected.

At December 31, 2016, we had remaining performance commitments as measured by remaining contract revenue totaling approximately \$3.9 billion, and this amount is likely to increase if our Market-Based Businesses expand. The presence of these commitments may adversely affect our financial condition and make it more difficult for us to secure financing on attractive terms.

American Water Enterprises’ operations are subject to various risks associated with doing business with the U.S. government.

We enter into contracts with the U.S. Department of Defense for the operation and maintenance of water and wastewater systems, which contracts may be terminated, in whole or in part, prior to the end of the 50-year term for convenience of the U.S. government or as a result of default or non-performance by the subsidiary performing the contract. In addition, the contract price for each of these military contracts is typically subject to redetermination two years after commencement of operations and every three years thereafter. Price redetermination is a contract mechanism to periodically adjust the service fee in the next period to reflect changes in contract obligations and

anticipated market conditions. Any early contract termination or unfavorable price redetermination could adversely affect our financial condition, results of operations and cash flows.

Moreover, entering into contracts with the U.S. government subjects us to a number of operational and compliance risks, including dependence on the level of government spending and compliance with and changes in governmental procurement and security regulations. We are subject to potential government investigations of our business practices and compliance with government procurement and security regulations, which are complex, and compliance with these regulations can be expensive and burdensome. If we were charged with wrongdoing as a result of an investigation, we could be suspended or barred from bidding on or receiving awards of new contracts with the U.S. government, which could have a material adverse effect on our results of operations and cash flows.

American Water Enterprises operates a number of water and wastewater systems under O&M contracts and faces the risk that the owners of those systems may fail to provide capital to properly maintain those systems, which may negatively affect American Water Enterprises as the operators of the systems.

American Water Enterprises operates a number of water and wastewater systems under O&M contracts. Pursuant to these contracts, American Water Enterprises operates the system according to the standards set forth in the applicable contract, and it is generally the responsibility of the owner of the system to undertake capital improvements. In some cases, American Water Enterprises may not be able to convince the owner to make needed improvements in order to maintain compliance with applicable regulations. Although violations and fines incurred by water and wastewater systems may be the responsibility of the owner of the system under these contracts, those non-compliance events may reflect poorly on American Water Enterprises as the operator of the system and us, and damage our reputation, and in some cases, may result in liability to us to the same extent as if we were the owner.

Our Market-Based Businesses are party to long-term contracts to operate and maintain water and wastewater systems under which we may incur costs in excess of payments received.

Some of our Market-Based Businesses enter into long-term contracts under which they agree to operate and maintain a municipality's, federal government's or other party's water or wastewater treatment and delivery facilities, which includes specified major maintenance for some of those facilities, in exchange for an annual fee. These Market-Based Businesses are generally subject to the risk that costs associated with operating and maintaining the facilities, including production costs such as purchased water, electricity, fuel and chemicals used in water treatment, may exceed the fees received from the municipality or other contracting party. Losses under these contracts or guarantees may adversely affect our financial condition, results of operations, cash flows and liquidity.

Keystone's operations may expose us to substantial costs and liabilities with respect to environmental laws and matters.

Keystone's operations, and the operation generally of natural gas and oil exploration and production facilities by Keystone's customers, are subject to stringent federal, state and local laws, rules, regulations and ordinances governing the release of materials into the environment or otherwise relating to environmental protection. These provisions may require the acquisition by Keystone of permits or licenses before providing its services to customers, prohibit the release of substances defined thereunder as hazardous in connection with these activities, and impose substantial liabilities for the violation thereof that may result from these operations. Failure to comply with these laws, rules, regulations and ordinances may result in substantial environmental remediation and other costs to Keystone, the assessment of administrative, civil and criminal penalties or the issuance of injunctions restricting or prohibiting certain activities. Under existing environmental laws and regulations, Keystone could be held strictly liable for the removal or remediation of previously released materials or property contamination regardless of whether the release resulted from its operations, or whether its operations were in compliance with all applicable laws at the time they were performed. While we have structured and maintained our ownership and control of Keystone's operations in such a way that we believe will insulate the Company, its regulated subsidiaries and its other Market-Based Businesses from any liabilities associated with Keystone's operations, including liabilities for environmental matters, there can be no assurance that such efforts will be sufficient to prevent the Company from incurring liability for the operations of Keystone.

Changes in environmental laws and regulations occur frequently, and any changes to these or other laws governing the natural gas and oil exploration industry that result in more stringent or costly water or wastewater handling, storage, transport, disposal or cleanup requirements could require Keystone to make significant expenditures to maintain compliance with such requirements, may harm Keystone's business and results of operations by reducing the demand for Keystone's water and related services, and may otherwise have a material adverse effect on Keystone's competitive

position, financial condition, results of operations and cash flows.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None

ITEM 2. PROPERTIES

Our properties consist of transmission, distribution and collection pipes, water and wastewater treatment plants, pumping wells, tanks, meters, supply lines, dams, reservoirs, buildings, vehicles, land, easements, software rights and other facilities and equipment. Our properties are used for the operation of our systems, including the collection, treatment, storage and distribution of water, and the collection and treatment of wastewater. Substantially all of our properties are owned by our subsidiaries, and a substantial portion of our property is subject to liens of our mortgage bonds. We lease our corporate offices, equipment and furniture, located in Voorhees, New Jersey from certain of our wholly owned subsidiaries. These properties are utilized by our directors, officers and staff in the conduct of the business.

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The properties of our Regulated Businesses segment primarily include 80 dams and 81 surface water treatment plants along with approximately 522 groundwater treatment plants, 1,022 groundwater wells, 121 wastewater treatment facilities, 1,284 treated water storage facilities, 1,433 pumping stations, and 49,635 miles of mains and collection pipes. We have ongoing infrastructure renewal programs in all states in which our Regulated Businesses segment operate. These programs consist of both rehabilitation of existing mains and other equipment and replacement of mains and other equipment that are damaged or have reached, or are near, the end of their useful service lives. The properties of our Market-Based Businesses consist mainly of office furniture and IT equipment and are primarily located in New Jersey. Approximately 51% of all properties that we own are located in New Jersey and Pennsylvania.

We maintain property insurance against loss or damage to our properties by fire or other perils, subject to certain exceptions. For insured losses, we are self-insured to the extent that any losses are within the policy deductible or exceed the amount of insurance maintained.

We believe that our properties are generally maintained in good operating condition and in accordance with current standards of good water and wastewater industry practice.

ITEM 3. LEGAL PROCEEDINGS

Alternative Water Supply in Lieu of Carmel River Diversions

Under the 2009 Order, Cal Am is required, among other things, to decrease significantly its yearly diversions of water from the Carmel River according to a set reduction schedule. The 2009 Order responded to claims that Cal Am had not sufficiently implemented actions to terminate its unpermitted diversions of water from the Carmel River as required by a 1995 SWRCB order. On July 19, 2016, at the request of Cal Am and several Monterey County government agencies, the SWRCB issued an order (the “2016 Order”) approving a five-year extension of the deadline to comply with the 2009 Order, to December 31, 2021. On November 29, 2016, the Water Ratepayers Association of the Monterey Peninsula, a citizens’ advocacy group, filed an action in Sacramento County Superior Court against the SWRCB and its board members, and naming Cal Am as the real party in interest, seeking to reverse the extension of the 2009 Order, to rescind the designation by the California Public Utilities Commission (the “CPUC”) of Cal Am as the public utility water provider to the Monterey Peninsula, and to appoint a receiver to oversee Cal Am’s compliance with the 2009 Order, with ultimate transfer to a public entity. This lawsuit is pending.

Regional Desalination Project Litigation

The Regional Desalination Project (the “RDP”) involved the construction of a desalination facility in the City of Marina, north of Monterey. The RDP was intended to, among other things, eliminate unauthorized diversions from the Carmel River as required under the 2009 Order. In December 2010, the CPUC approved the RDP, which was to be implemented through a Water Purchase Agreement and ancillary agreements (collectively, the “Agreements”) among the Marina Coast Water District (“MCWD”), the MCWRA and Cal Am. In 2011, due to a conflict of interest concerning a former member of the MCWRA’s Board of Directors, MCWRA stated that the Agreements were void, and, as a result, Cal Am terminated the Agreements. In April 2015, the CPUC approved a settlement agreement among Cal Am, MCWRA and the County of Monterey to resolve these matters among the parties signing the agreement. On March 23, 2016, the Supreme Court of California granted MCWD’s petition for review of the CPUC approval. Action on the petition has been deferred pending consideration and disposition of a related issue in another case.

In October 2012, Cal Am filed a Complaint for Declaratory Relief against MCWRA and MCWD which was ultimately transferred to the San Francisco County Superior Court, seeking a determination as to whether the Agreements are void as a result of the alleged conflict of interest. In June 2015, the court entered a final judgment agreeing with Cal Am’s position that four of the five Agreements are void, and one, the credit line agreement, is not void. On November 10, 2016, the Supreme Court of California denied MCWD’s final appeal of this judgment, which

allows further proceedings to determine the amount of damages that may be awarded in the proceeding.

In July 2015, Cal Am and MCWRA filed a Complaint in San Francisco County Superior Court against MCWD and RMC Water and Environment, a private engineering consulting firm (“RMC”), seeking to recover compensatory damages in excess of \$10 million associated with the failure of the RDP, as well as punitive and treble damages, statutory penalties and attorneys’ fees. Shortly thereafter, complaints seeking similar damages were filed in the same court by MCWD and RMC against Cal Am and MCWRA in excess of \$19 million in the aggregate. In December 2015, the court consolidated all of these complaints into a single action, which remains pending.

Monterey Peninsula Water Supply Project

The Water Supply Project is intended to reduce water diversions from the Carmel River and involves construction of a desalination plant, owned by Cal Am, and purchase of water by Cal Am from the GWR Project. Cal Am's ability to move forward on the Water Supply Project is subject to extensive administrative review by the CPUC and other government agencies, obtaining necessary permits, and intervention from other parties. On March 17, 2016, the CPUC's Energy Division issued a notice of further schedule delays for the Water Supply Project's environmental review, with environmental certification currently scheduled for completion in November 2017. On January 12, 2017, the CPUC issued a Draft Environmental Impact Report/Environmental Impact Statement.

On September 15, 2016, the CPUC unanimously approved a decision to authorize Cal Am to enter into a water purchase agreement for the GWR Project and to construct a pipeline and pump station facilities and recover up to \$50 million in associated costs, subject to meeting certain criteria. If construction costs exceed \$50 million, Cal Am would be allowed to seek additional cost recovery.

A preliminary step to building the Water Supply Project desalination plant is the construction and operation of a test slant well to confirm the suitability of the property on which intake wells will be located to draw water from under Monterey Bay. In November 2014, the California Coastal Commission (the "Coastal Commission") approved coastal development permits for the test slant well, enabling Cal Am to construct the portion that will be under state lands (beneath the ocean floor). In January 2015, Cal Am obtained from the California State Lands Commission (the "State Lands Commission") a required lease as to the state lands. In October 2015, the Coastal Commission approved an amendment to Cal Am's coastal development permits.

In December 2014, the MCWD and the Ag Land Trust, an agricultural land conservancy, filed petitions against the Coastal Commission and Cal Am, which were ultimately transferred to the Santa Cruz County Superior Court, seeking to vacate the Coastal Commission's approval of the coastal development permit and to permanently restrain Cal Am and the Coastal Commission from constructing the test slant well pending full compliance with the California Environmental Quality Act and the California Coastal Act. The court denied these petitions, and on January 11, 2017, the Supreme Court of California denied MCWD's petition for review of this decision. MCWD filed a similar petition in January 2015 against the State Lands Commission and Cal Am, which remains pending.

In November 2015, MCWD filed a Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief in Santa Cruz County Superior Court against the Coastal Commission and Cal Am challenging the amendment of the coastal development permits and seeking an injunction against further test well pumping. On September 15, 2016, the court denied MCWD's petition with respect to all claims, except claims related to those raised in the December 2014 petitions discussed above.

Based on the foregoing, Cal Am estimates that the earliest date by which the Water Supply Project desalination plant could be completed is sometime in 2019. There can be no assurance that Cal Am's application for the Water Supply Project will be approved or that the Water Supply Project will be completed on a timely basis, if ever. Furthermore, there can be no assurance that Cal Am will be able to comply with the diversion reduction requirements and other remaining requirements under the 2009 Order and the 2016 Order, or that any such compliance will not result in material additional costs or obligations to Cal Am or the Company.

West Virginia Elk River Freedom Industries Chemical Spill

Background

On January 9, 2014, a chemical storage tank owned by Freedom Industries, Inc. leaked two substances, 4-methylcyclohexane methanol, or MCHM, and PPH/DiPPH, a mix of polyglycol ethers, into the Elk River near the WVAWC treatment plant intake in Charleston, West Virginia. After having been alerted to the leak of MCHM by the West Virginia Department of Environmental Protection, WVAWC took immediate steps to gather more information about MCHM, augment its treatment process as a precaution, and begin consultations with federal, state and local public health officials. As soon as possible after it was determined that the augmented treatment process would not fully remove the MCHM, a joint decision was reached in consultation with the West Virginia Bureau for Public Health to issue a “Do Not Use” order for all of its approximately 93,000 customer accounts in parts of nine West Virginia counties served by the Charleston treatment plant. By January 18, 2014, none of WVAWC’s customers were subject to the Do Not Use order.

Following the Freedom Industries chemical spill, numerous lawsuits were filed against WVAWC and certain other Company-affiliated entities (collectively, the “American Water Defendants”) with respect to this matter in the U.S. District Court for the Southern District of West Virginia or West Virginia Circuit Courts in Kanawha, Boone and Putnam counties, and to date, 73 cases remain pending. Four of the cases pending before the U.S. district court were consolidated for purposes of discovery, and an amended consolidated class action complaint for those cases (the “Federal action”) was filed in December 2014 by several plaintiffs. On January 28, 2016, all of the then-filed state court cases were referred to West Virginia’s Mass Litigation Panel for further proceedings, which have been stayed pending the negotiation by the parties and approval by the court in the Federal action of a global agreement to settle all of such cases, as described below. On July 7, 2016, the court in the Federal action scheduled trial to begin on October 25, 2016, but the court delayed the start of the trial pending ongoing settlement negotiations between the parties and has since granted a continuance of the trial until March 21, 2017. The Mass Litigation Panel has also stayed its proceedings until May 1, 2017.

WVAWC Binding Global Agreement in Principle to Settle Claims

On October 31, 2016, the court in the Federal action approved the preliminary binding principles, terms and conditions of the Settlement among the American Water Defendants, and all class members, putative class members, claimants and potential claimants (collectively, the “Plaintiffs”), arising out of the Freedom Industries chemical spill. The terms of the Settlement propose a global federal and state resolution of all litigation and potential claims against the American Water Defendants and their insurers. A claimant may elect to opt out of any final settlement agreement, in which case such claimant will not receive any benefit from or be bound by the terms of the Settlement. Under the terms and conditions of the Settlement and any subsequent final settlement agreement, the American Water Defendants have not admitted, and will not admit, any fault or liability for any of the allegations made by the Plaintiffs in any of the actions to be resolved.

The proposed aggregate pre-tax amount of the Settlement is \$126 million, of which \$65 million would be contributed by WVAWC, and the remainder would be contributed by certain of the Company’s general liability insurance carriers. The Company has general liability insurance under a series of policies underwritten by a number of individual carriers. Two of these insurance carriers, which provide an aggregate of \$50 million in insurance coverage to the Company under these policies, were requested, but presently have not agreed, to participate in the Settlement. The Company and WVAWC are vigorously pursuing their rights to insurance coverage from these non-participating carriers for any contributions by WVAWC to the Settlement. In this regard, WVAWC filed a lawsuit against one of these carriers alleging that the carrier’s failure to agree to participate in the Settlement constitutes a breach of contract, and the Company is pursuing mandatory arbitration against the other non-participating carrier. Despite these efforts, the Company may not ultimately be successful in obtaining full or further reimbursement under these insurance policies for amounts that WVAWC may be required to contribute to the Settlement.

The preliminary terms of the Settlement intend to establish a two-tier settlement fund for the payment of claims, comprised of (i) a simple claim fund, which is also referred to as the “guaranteed fund,” of \$76 million, of which \$51 million will be contributed by WVAWC, including insurance deductibles, and \$25 million would be contributed by one of the Company’s general liability insurance carriers, and (ii) an individual review claim fund of up to \$50 million, of which up to \$14 million would be contributed by WVAWC and \$36 million would be contributed by a number of the Company’s general liability insurance carriers. Separately, up to \$25 million would be contributed to the guaranteed fund by another defendant to the Settlement.

As a result of these events, the Company recorded a charge to earnings, net of insurance receivables, of \$65 million (\$39 million after-tax) in the third quarter of 2016. The Company intends to fund WVAWC’s contributions to the Settlement through existing sources of liquidity, although no contribution by WVAWC will be required unless and until the terms of the Settlement are finally approved by the court in the Federal action. Furthermore, under the terms

of the Settlement, WVAWC has agreed that it will not seek rate recovery from the Public Service Commission of West Virginia for approximately \$4 million in direct response costs expensed in 2014 by WVAWC relating to the Freedom Industries chemical spill as well as for amounts paid by WVAWC under the Settlement.

The Company's insurance policies operate under a layered structure where coverage is generally provided in the upper layers after claims have exhausted lower layers of coverage. The \$36 million to be contributed by a number of the Company's general liability insurance carriers to the individual review claim fund, as noted above, is from higher layers of the insurance structure than the two insurance carriers that were requested, but presently have not agreed, to participate in the Settlement. Any recovery by WVAWC or the Company from the non-participating carriers would reimburse WVAWC for its contributions to the guaranteed fund.

Following the court's October 31 approval, the parties have continued to negotiate the details of the Settlement. If preliminary approval of the Settlement is obtained, notice of the terms of the Settlement would then be provided to members of the settlement class. Following the notice period, the court in the Federal action would hold a fairness hearing to consider final approval of the Settlement. There can be no assurance that the court in the Federal action will provide its approval as to any agreement negotiated between the parties reflecting the terms of the Settlement.

The American Water Defendants believe that WVAWC has responded appropriately to, and, other than through the Settlement, has no responsibility for, the Freedom Industries chemical spill, and that the American Water Defendants have valid, meritorious defenses to the lawsuits. Nevertheless, WVAWC and the Company are unable to predict the outcome of any lawsuit against the American Water Defendants brought or maintained by a claimant that elects to opt out of the Settlement, and any such outcome or outcomes could have a material adverse effect on the Company's financial condition, results of operations, cash flows, liquidity and reputation.

Other Related Investigations

Additionally, investigations with respect to the matter have been initiated by the U.S. Chemical Safety and Hazard Investigation Board (the "CSB"), the U.S. Attorney's Office for the Southern District of West Virginia, the West Virginia Attorney General, and the Public Service Commission of West Virginia (the "PSC"). As a result of the U.S. Attorney's Office investigation, Freedom Industries and six former Freedom Industries employees (three of whom also were former owners of Freedom Industries), pled guilty to violations of the federal Clean Water Act.

In May 2014, the PSC issued an Order initiating a General Investigation into certain matters relating to WVAWC's response to the Freedom Industries chemical spill. Three parties intervened in the proceeding, including the Consumer Advocate Division of the PSC and two attorney-sponsored groups, including one sponsored by some of the plaintiffs' counsel involved in the civil litigation described above. On January 26, 2017, WVAWC and the other parties agreed to resolve the General Investigation and filed a joint stipulation with the PSC containing the terms of the settlement. The parties to the joint stipulation filed a proposed order with the PSC on February 8, 2017.

The CSB is an independent investigatory agency with no regulatory mandate or ability to issue fines or citations; rather, the CSB can only issue recommendations for further action. In response to the Freedom Industries chemical spill, the CSB commenced an investigation shortly thereafter. On September 28, 2016, the CSB issued and adopted its investigation report in which it recommended that the Company conduct additional source water protection activities. The Company provided written comments to the CSB's report suggesting that the recommendation made to the Company would be better directed to the EPA in order to promote industry-wide implementation of the CSB's recommendation. On February 15, 2017, the Company filed its response to the CSB's recommendation. The CSB has indicated that it may consider issuing a supplemental report on the Freedom Industries chemical spill.

WVAWC and the Company are unable to predict the outcome of the ongoing government investigations or any legislative initiatives that might affect WVAWC's water utility operations.

General

Periodically, the Company is involved in other proceedings or litigation arising in the ordinary course of business. Other than those proceedings described in this Item 3—Legal Proceedings, the Company does not believe that the ultimate resolution of these matters will materially affect its financial position or results of operations. However, litigation and other proceedings are subject to many uncertainties, and the outcome of individual matters is not predictable with assurance. It is possible that some litigation and other proceedings could be decided unfavorably to the Company, and that any such unfavorable decisions could have a material adverse effect on its business, financial condition, results of operations, and cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Since April 23, 2008, our common stock has traded on the NYSE under the symbol "AWK." The following table summarizes the per share range of the high and low intraday sales prices of our common stock as reported on the NYSE and the per share cash dividends paid and declared for the years ended December 31, 2016 and 2015:

2016	Intraday Market Prices		Per Share Dividends Paid	Per Share Dividends Declared
	High	Low		
Fourth Quarter	\$76.12	\$69.41	\$ 0.375	\$ 0.75
Third Quarter	85.24	72.12	0.375	0.375
Second Quarter	84.54	68.09	0.375	0.375
First Quarter	70.10	58.90	0.34	—

2015	Intraday Market Prices		Per Share Dividends Paid	Per Share Dividends Declared
	High	Low		
Fourth Quarter	\$61.20	\$54.62	\$ 0.34	\$ 0.68
Third Quarter	55.63	48.52	0.34	0.34
Second Quarter	55.67	48.36	0.34	0.34
First Quarter	57.48	51.84	0.31	—

As of February 16, 2017, there were 178,214,748 shares of common stock outstanding held by approximately 2,608 record holders. Holders of our common stock are entitled to receive dividends when they are declared by the Board of Directors. When dividends on common stock are declared, they are typically paid in March, June, September and December. Future dividends are not guaranteed by the Company and will be dependent on future earnings, financial requirements, contractual provisions of debt agreements and other relevant factors. For more information regarding restrictions on the payment of dividends on our common stock, see Item 7—Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Dividends.

In February 2015, the Board of Directors authorized an anti-dilutive common stock repurchase program to mitigate the dilutive effect of shares issued through our dividend reinvestment, employee stock purchase and executive compensation activities. The program allows us to purchase up to 10 million shares of our outstanding common stock over an unrestricted period of time in the open market or through privately negotiated transactions. The program is conducted in accordance with Rule 10b-18 of the Exchange Act, and to facilitate these repurchases, we enter into Rule 10b5-1 share repurchase plans with a third party broker, which allow us to repurchase shares at times when we may otherwise be prevented from doing so under insider trading laws or because of self-imposed trading blackout periods. Subject to applicable regulations, we may elect to amend or cancel the program or share repurchase parameters at our discretion to manage dilution.

From April 1, 2015, the date repurchases under the anti-dilutive stock repurchase program commenced, through December 31, 2016, the Company repurchased an aggregate of 3,250,000 shares of common stock under the program,

including 1,000,000 shares repurchased during the first half of 2016. There were no repurchases of common stock in the last half of 2016.

On November 17, 2016, 19,629 shares of common stock were issued by the Company in a transaction not involving a public offering of securities, which transaction was exempt from registration under the Securities Act of 1933, as amended, pursuant to Section 4(a)(2) thereof. The shares were issued to one holder as consideration for assets acquired and liabilities assumed by Cal Am.

ITEM 6. SELECTED FINANCIAL DATA

	For the Years Ended December 31,				
	2016	2015	2014	2013	2012
	(In millions, except per share data)				
Statement of Operations Data:					
Operating revenues	\$3,302	\$3,159	\$3,011	\$2,879	\$2,854
Income from continuing operations	\$468	\$476	\$430	\$371	\$374
Income from continuing operations					
per basic common share	\$2.63	\$2.66	\$2.40	\$2.08	\$2.12
Income from continuing operations					
per diluted common share	\$2.62	\$2.64	\$2.39	\$2.07	\$2.10
Balance Sheet Data:					
Total assets (a) (b)	\$18,482	\$17,241	\$16,038	\$15,064	\$14,713
Long-term debt and redeemable preferred					
stock at redemption value (a)	\$5,759	\$5,874	\$5,442	\$5,225	\$5,203
Other Data:					
Aggregate dividends declared					
per common share	\$1.50	\$1.36	\$1.24	\$1.12	\$0.98
Cash flows provided by operating activities	\$1,276	\$1,179	\$1,097	\$896	\$956
Capital expenditures included in					
cash flows used in investing activities	\$(1,311)	\$(1,160)	\$(956)	\$(980)	\$(929)

NOTE: In November 2014, we disposed of our Class B Biosolids operating segment by selling our subsidiary, Terratec Environmental Ltd (“Terratec”) in Ontario, Canada. The results of Terratec are presented as discontinued operations and, as such, have been excluded from continuing operations for the years ended December 31, 2014, 2013 and 2012. See Note 3—Acquisitions and Divestitures in the Notes to Consolidated Financial Statements for additional details on our discontinued operations.

- (a) The information for 2014, 2013 and 2012 has been revised to reflect the retrospective application of Accounting Standard Update 2015-15 Presentation of Debt Issuance Costs, which was adopted by the Company as of December 31, 2015.
- (b) The information for 2014, 2013 and 2012 has been revised to reflect the retrospective application of Accounting Standard Update 2015-17 Income Taxes, which was adopted by the Company as of December 31, 2015.

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read together with the consolidated financial statements and the notes thereto included elsewhere in this Form 10-K. This discussion contains forward-looking statements that are based on management’s current expectations, estimates and projections about our business, operations and financial performance. The cautionary statements made in this Form 10-K should be read as applying to all related

forward-looking statements whenever they appear in this Form 10-K. Our actual results may differ materially from those currently anticipated and expressed in such forward-looking statements as a result of a number of factors, including those we discuss under “Forward-Looking Statements,” Item 1A—Risk Factors and elsewhere in this Form 10-K.

Executive Overview

Through its subsidiaries, American Water is the largest and most geographically diverse investor-owned publicly-traded water and wastewater utility company in the United States, as measured by both operating revenues and population served. We employ approximately 6,800 professionals who provide drinking water, wastewater and other related services to an estimated 15 million people in 47 states, the District of Columbia and Ontario, Canada. Our primary business involves the ownership of utilities that provide water and wastewater services to residential, commercial, industrial and other customers, including sale for resale and public authority customers. Our Regulated Businesses that provide these services are generally subject to economic regulation by certain state utility commissions or other entities engaged in utility regulation. Certain federal and state governments also regulate environmental, health and safety, and water quality matters. Our Regulated Businesses provide services in 16 states and serve approximately 3.3 million customers based on the number of active service connections to our water and wastewater networks. We also operate several businesses that provide a broad range of related and complementary water and wastewater services in four operating segments that individually do not meet the criteria of a reportable segment in accordance with GAAP. These four non-reportable operating segments are collectively presented as our Market-Based Businesses, which is consistent with how management assesses the results of these businesses.

2016 Strategic Focus & Achievements

For 2016, our focus was anchored on five central strategic themes:

◆ **Customer** – One of our core values is putting our customers at the center of everything we do.

◆ In 2016, we achieved a customer satisfaction rating in the top quartile among our water industry peers and achieved a service quality rating of 85%, which also placed us in the top quartile compared to our water industry peers;

- We launched a comprehensive customer experience initiative designed to enhance our quality of service and make it easier for customers to do business with us;

◆ We continued to make needed infrastructure investment while implementing operational efficiency improvements to keep customer rates affordable; and

◆ Our drinking water system quality was 21 times better than the industry average.

◆ **Safety** – The health and safety of our employees, customers and the public is both a strategy and a value.

- In 2016, our focus continued on putting safety first. We finished 2016 with fewer employee injuries than in the prior year, we enhanced accident prevention and risk mitigation through our “near miss” reporting program and we achieved a stronger safety culture as measured by employee responses in the Company’s culture survey. Our safety council, consisting of management and labor employees from across the Company, continued their mission of developing and implementing recommendations to reinforce the Company’s commitment to safety. In addition, we hold our vendors accountable to the same safety standards as our Company.

◆ **People** – Our employees and culture are paramount to our success.

◆ In 2016, we continued to demonstrate our commitment to employees by providing safety and technical training throughout the Company and expanding training and development offerings for supervisors and individual employees. We enhanced and developed robust succession plans for key leadership roles across the company and we continued to provide competitive compensation and benefits to retain and attract a highly skilled and diverse workforce.

◆ **Growth** – We invested \$1.5 billion in 2016; a record level of annual investment since the Company went public in 2008 including:

◆ \$1.3 billion of which the majority was in our Regulated Businesses primarily to improve infrastructure; and

◆ \$199 million for completed regulated acquisitions, adding approximately 42,000 water and wastewater customers.

Included was the purchase of substantially all of the wastewater collection and treatment assets of the Sewer Authority of the City of Scranton by Pennsylvania-American Water Company (“PAWC”) on December 29, 2016. This acquisition alone added approximately 31,000 wastewater customers in the City of Scranton and Dunmore Borough, Pennsylvania.

In addition to the acquisitions that closed in 2016 adding approximately 42,000 water and wastewater customers discussed above, we also entered into a number of agreements for which the closing of the transactions remain pending. These pending transactions represent the potential addition of approximately 40,000 new water and wastewater customers. The largest of the pending acquisitions include:

Shorelands Water Company, New Jersey: Shorelands currently provides water service to approximately 11,000 customers in Monmouth County, New Jersey. On August 2, 2016, we agreed to acquire all of the capital stock of Shorelands Water Company (“Shorelands”) in exchange for an equivalent value of our common stock. The maximum number of shares of our common stock to be exchanged upon closing of this acquisition will be less than 500,000 and will be based upon the average price of our common stock. The closing of this acquisition is subject to the satisfaction of various conditions and compliance by the parties with certain covenants, including obtaining the approval of the New Jersey Board of Public Utilities. The Company is seeking to close the acquisition in the first half of 2017.

Municipal Authority of the City of McKeesport, Pennsylvania: The system currently represents approximately 22,000 wastewater customers. On September 9, 2016, PAWC signed an asset purchase agreement to acquire substantially all of the wastewater collection and treatment system assets of the Municipal Authority of the City of McKeesport, Pennsylvania for approximately \$156 million, subject to certain adjustments provided in the agreement. In connection with the execution of this agreement, a \$5 million non-escrowed deposit was also paid. The closing of this acquisition is subject to the satisfaction of various conditions and covenants, including obtaining the approval of the Pennsylvania Public Utility Commission. We are seeking to close this acquisition in the second half of 2017.

• **Technology and Operational Efficiency –** We drove continued cost savings into our businesses.

• **Our Regulated Businesses achieved an adjusted O&M efficiency ratio (a non-GAAP measure) of 34.9% in 2016;** Our adjusted O&M efficiency ratio for the year ended December 31, 2016 was 34.9%, compared to 35.9% and 36.7% for the years ended December 31, 2015 and 2014, respectively. The improvement in the 2016 adjusted O&M efficiency ratio over the 2015 ratio was primarily attributable to an increase in revenue. The improvement in the 2015 adjusted O&M efficiency ratio over the 2014 ratio was attributable to both an increase in revenue and decreases in O&M expenses.

Our adjusted O&M efficiency ratio is defined as our regulated O&M expenses divided by regulated operating revenues, where both O&M expenses and operating revenues were adjusted to eliminate purchased water expense. Additionally, from the O&M expenses, we excluded the allocable portion of non-O&M support services cost, mainly depreciation and general taxes that are reflected in the Regulated Businesses segment as O&M expenses but for consolidated financial reporting purposes are categorized within other line items in the accompanying Consolidated Statements of Operations. In addition to the standard adjustments to the O&M efficiency ratio for the year ended December 31, 2016, we have also excluded from operating revenues and O&M expenses the impact from the binding global agreement in principle related to the Freedom Industries chemical spill in West Virginia. Also, for the year ended December 31, 2014, we have also excluded from operating revenues and O&M expenses the estimated impact to revenue and O&M attributable to changes in consumption as a result of abnormal weather and the costs associated with the Freedom Industries chemical spill, as applicable. We excluded all the above items from the calculation as we believe such items are not reflective of management’s ability to increase efficiency of the Company’s regulated operations.

We evaluate our operating performance using this measure because management believes it is a direct measure of the improvement to the efficiency of our Regulated Businesses’ operations. This information is intended to enhance an investor’s overall understanding of our operating performance. The O&M efficiency ratio is not a GAAP financial measure and may not be comparable to other companies’ operating measures and should not be used in place of the GAAP information provided elsewhere in this report.

The following table provides the calculation and reconciliation that compares O&M expenses and operating revenues, as determined in accordance with GAAP, to those amounts utilized in the calculation of our adjusted O&M efficiency ratio for the years ended December 31:

	2016	2015	2014
	(in millions)		
Total operation and maintenance expenses	\$1,504	\$1,404	\$1,350
Less:			
Operation and maintenance expenses—Market-Based Businesses	372	358	289
Operation and maintenance expenses—Other	(44)	(49)	(51)
Total regulated operation and maintenance expenses	1,176	1,095	1,112
Less:			
Regulated purchased water expenses	122	117	122
Allocation of non-operation and maintenance expenses	30	35	39
Impact of Freedom Industries chemical spill in West Virginia	—	—	10
Impact of binding global agreement in principle	65	—	—
Estimated impact of weather	—	—	(2)
Adjusted regulated operation and maintenance expenses (a)	\$959	\$943	\$943
Total operating revenues	\$3,302	\$3,159	\$3,011
Less:			
Operating revenues—Market-Based Businesses	451	434	355
Operating revenues—Other	(20)	(18)	(18)
Total regulated operating revenues	2,871	2,743	2,674
Less:			
Regulated purchased water revenues*	122	117	122
Add:			
Impact of Freedom Industries chemical spill in West Virginia	—	—	1
Estimated impact of weather	—	—	17
Adjusted regulated operating revenues (b)	\$2,749	\$2,626	\$2,570
Adjusted O&M efficiency ratio (a)/(b)	34.9 %	35.9 %	36.7 %

*Note calculation assumes purchased water revenues approximate purchased water expenses.

•We implemented an enterprise resource planning system in our Market-Based Businesses to integrate and enhance operations, customer service and support services; and

•We initiated a strategic technology program designed to leverage technological advancements to enhance customer experience, drive operational efficiency, provide data integration and analytics, and enhance security. In addition, we implemented improved technology tools to enhance communication, collaboration and mobility, including a new comprehensive technology roadmap that will help our operations and support employees in providing even better customer experiences in the future.

2016 Financial Results

Highlights of our diluted earnings per share and adjusted diluted earnings per share for the years ended December 31, 2016, 2015 and 2014 are as follows:

	2016	2015	2014
Income from continuing operations	\$2.62	\$2.64	\$2.39
Loss from discontinued operations, net of tax (a)	—	—	(0.04)
Diluted earnings per share	\$2.62	\$2.64	\$2.35
Add back: Non-GAAP adjustment:			
Impact of the binding global agreement in principle (b)	0.36	—	—
Tax impact	(0.14)	—	—
Non-GAAP adjustment impact on diluted earnings per share	0.22	—	—
Adjusted diluted earnings per share	\$2.84	\$2.64	\$2.35

(a) Discontinued operations represents the 2014 sale of our Terratec line of business, which was part of our Market-Based Businesses. The loss from discontinued operations, net of tax, reflected in the 2014 financial results includes the loss on the sale, an income tax valuation allowance and the 2014 operating results of the entity prior to the sale. See Note 3—Acquisitions and Divestitures in the Notes to Consolidated Financial Statements for further details on our discontinued operations.

(b) See Item 3—Legal Proceedings and Note 15—Commitments and Contingencies in the Notes to Consolidated Financial Statements included in Item 8—Consolidated Financial Statements in this Form 10-K.

Income from continuing operations decreased 2 cents per diluted share, or 0.8%, for the year ended December 31, 2016 compared to the prior year. Included in the 2016 amount was the after-tax charge of \$39 million, or \$0.22 per diluted share, resulting from the binding global agreement in principle related to the Freedom Industries chemical spill. Excluding this charge, income from continuing operations increased \$0.20 per diluted share, or approximately 7.6%. This increase was mainly due to continued strong growth in our Regulated Businesses. For further detailed discussion of the consolidated results of operations, as well as the financial results of our business segments, see “Comparison of Consolidated Results of Operations” and “Segment Results of Operations”.

Adjusted diluted earnings per share represents a non-GAAP financial measure and excludes the impact of the Settlement. We believe that this non-GAAP measure provides useful information by excluding such matters that may not be indicative of our on-going operating results. We believe this non-GAAP measure will allow for better evaluation of the operating performance of the business and facilitate a meaningful comparison of our results in the current year to those in prior years. The non-GAAP financial information should be considered in addition to, not as a substitute for, measures of financial performance prepared in accordance with U.S. GAAP. In addition, our non-GAAP measure may not be comparable to similarly titled non-GAAP measures of other companies.

Regulatory Matters

The table below provides rate authorizations effective from 2014 through 2016. The table depicts annualized incremental revenues assuming a constant water sales volume:

	For the Years Ended December 31,		
	2016	2015	2014
	(In millions)		
General rate cases by state			
Indiana (a)	\$ 2	\$ 5	\$ —
West Virginia (b)	18	—	—
Missouri (c)	5	—	—
Kentucky (d)	7	—	—
New Jersey (e)	—	22	—
California (f)	2	5	2
Iowa (g)	—	—	4
Other	—	1	—
Total General rate cases	\$ 34	\$ 33	\$ 6

(a) New rates effective January 29 of each year.

(b) New rates effective February 25, 2016.

(c) New rates effective July 20 and 22, 2016.

(d) New rates effective August 28, 2016.

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(e) New rates effective September 21, 2015.

(f) Step rates for 2016 and 2015 effective January 1. The 2014 increase is from step rate and attrition year filing with rates effective on April 1, 2014.

(g) New rates effective April 18, 2014, including \$3 million of interim rates effective May 10, 2013.

On December 13, 2016 we received a decision on our general rate case in Illinois authorizing additional annualized revenues of \$26 million effective on January 1, 2017.

On February 1, 2016, Cal Am received approval from the CPUC to extend its cost of capital proceeding for an additional year. Subsequently, Cal Am has requested to extend its current authorized cost of capital which is scheduled to expire on December 31, 2017 for an additional year. If no extension is received by March 31, 2017, Cal Am will file its cost of capital application as scheduled.

During the first quarter of 2017, Cal Am received approval from the CPUC for step rates authorizing additional annualized revenues of \$5 million effective on various dates between January 13, 2017 and February 2, 2017.

A number of states have authorized the use of regulatory mechanisms that permit rates to be adjusted outside of a general rate case for certain costs and investments, such as infrastructure surcharge mechanisms that permit recovery of capital investments to replace aging infrastructure. The following table details additional annualized revenues authorized through infrastructure surcharge mechanisms that were effective from 2014 through 2016:

	For the Years Ended December 31,		
	2016	2015	2014
	(In millions)		
Infrastructure charges by state			
Pennsylvania (a)	\$ 28	\$ 14	\$ —
New Jersey (b)	19	9	17
Missouri (c)	—	2	13
Indiana (d)	3	—	—
Illinois (e)	7	6	2
New York (f)	—	1	2
Tennessee (g)	2	2	1
Total Infrastructure charges	\$ 59	\$ 34	\$ 35

(a) Quarterly filings in 2016 for \$11 million, \$2 million, \$6 million and \$9 million effective the first day of the calendar quarter for January, April, July and October, respectively. For 2015, \$2 million, \$4 million and \$8 million effective April 1, July 1 and October 1, 2015, respectively. No infrastructure charges in 2014 as the general rate case effective January 1, 2014, included a forecasted test year.

(b) Semi-annual filings in 2016, \$9 million effective June 1, 2016 and \$10 million effective December 1, 2016. For 2015, \$9 million effective January 1, 2015. For 2014, \$7 million and \$10 million effective July 1, 2014 and January 1, 2014.

(c) 2015 effective date was June 27, 2015. For 2014, \$9 million and \$4 million effective December 31, 2014 and May 30, 2014.

(d) Effective May 4, 2016.

(e) For 2016, \$1 million effective January 1 and \$6 million effective August 1. For 2015, \$1 million and \$5 million effective February 1 and January 1. For 2014, \$2 million effective January 1.

(f) For 2015, effective date is December 1. For 2014, \$1 million effective January 1 and March 3.

(g) Effective dates of March 15, 2016, June 29, 2015 and April 15, 2014.

On December 2, 2016, infrastructure charges amounting to additional annualized revenues of \$2 million was approved for our West Virginia subsidiary and became effective on January 1, 2017. Also, on January 1, 2017, \$1 million of additional annualized revenues from infrastructure charges for our Pennsylvania subsidiary were authorized and became effective.

2016 Pending Rate Cases and Infrastructure Charges

On April 1, 2016, \$9 million in annualized revenues, which was requested in our Virginia general rate case that was filed on October 30, 2015, was put into effect as interim rates under bond and subject to refund.

On April 29, 2016, our New York subsidiary filed a general rate case requesting \$9 million in additional annualized water revenues. Also on April 29, 2016, our Iowa subsidiary filed a general rate case requesting \$5 million in additional annualized revenue. On May 9, 2016, \$2 million in additional annualized revenues of the \$5 million requested in our Iowa rate case were put into effect as interim rates under bond and subject to refund.

On July 1, 2016, our California subsidiary filed a general rate case requesting to increase revenues over three years. This increase includes a request of \$35 million of additional annualized revenue, which is expected to become effective on January 1, 2018 as well as a step rate and attrition rate increase of \$8 million in both 2019 and 2020.

On November 4, 2016, our Tennessee subsidiary filed for an infrastructure surcharge requesting additional revenues of \$2 million. On January 16, 2017, our Indiana subsidiary filed for an infrastructure surcharge requesting additional revenues of \$8 million.

There is no assurance that all or any portion of these requests will be granted.

Other Regulatory Matters

On December 8, 2016, the CPUC issued a final decision in regard to the application filed by Cal Am in July 2015 which requested changes to the then present rate design and the emergency conservation and rationing plan for water customers in certain areas within its Monterey County service district. The final decision allowed for: (i) recovery of existing undercollections of the net water revenue adjustment mechanism/modified cost balancing account (“WRAM/MCBA”) balance amounting to approximately \$32 million at December 31, 2016, over 5 years earning interest at the 90-day commercial paper rate; and (ii) modification of existing conservation and rationing plans.

2017 and Beyond

We believe our success in the future will be driven by engaged employees, smart investments and safe, efficient operations leading to highly satisfied customers, which in turn will lead to constructive regulatory outcomes and sustainable financial performance. Our future results will continue to be anchored on our five central themes with customers at the center of all we do. These five central themes are our focus over the next five years:

Customers. Our focus continues on our customers by achieving customer satisfaction and service quality targets in the top quartile of our industry. Our comprehensive customer experience initiative is designed to make it easier for customers to do business with us. Our focus on water quality continues to converge people, technology and innovation to deliver industry leading water quality. We intend to continue to make needed infrastructure investments while implementing operational efficiency improvements to help keep customer rates affordable.

Safety. Our focus continues to put safety first in everything that we do. Our safety focus includes the safety and health of our employees, our customers and the public. We measure our success through water quality, OSHA recordable incident and DART rates (“days away, restricted or transferred”), where we strive to achieve industry leading performance.

People. Our focus on our employees and culture is paramount to our success going forward. We intend to continue our focus on ensuring we have strong relationships with our union employees, effective training and development plans for all employees and a diverse workforce.

Growth. We expect to invest \$6.7 to \$7.3 billion over the next five years, with \$1.5 billion in 2017, as follows: Capital investment to improve infrastructure in our Regulated Businesses segment of \$5.9 billion, with \$1.25 billion expected in 2017;

Growth from acquisitions in our Regulated Businesses segment of \$600 million to \$1.2 billion to expand our water and wastewater customer base with \$120 million to 240 million expected in 2017; and

Strategic capital investments of about \$200 million for the next five years with approximately \$100 million expected in 2017, which includes investments related growth in our Market-Based Businesses as we expand markets and new offerings, and evaluate potential opportunities to assist the natural gas exploration and production industry in the delivery of water to support their processes. Also, we are building a new corporate headquarters in Camden, New Jersey, which is expected to be complete in 2018. This project is eligible for up to \$164 million in tax credits from New Jersey’s Economic Development Authority.

The chart below presents our estimated percentage of projected capital expenditures over the period of 2017 to 2021 for improving infrastructure in our Regulated Businesses segment by purpose:

- **Technology and Operational Efficiency.** We intend to continue our commitment to operational efficiency, technology, innovation and environmental leadership. We plan to continue to modernize our infrastructure and leverage technological advancements to enhance customer experience, drive operation efficiency, provide data integration and analytics and enhance security. We have set a goal to achieve an adjusted O&M efficiency ratio (a non-GAAP measure, see below for additional information) equal to or below 32.5% by 2021. We are committed to environmental leadership while providing safe, reliable and cost effective water and water-related services to our customers.

With respect to our adjusted O&M efficiency ratio goal for 2021, we are unable to provide without unreasonable efforts a quantitative reconciliation of each component of this ratio to the most comparable financial measure calculated in accordance with GAAP. In calculating the components of the ratio, certain items that may ultimately be excluded would be reflective of events that cannot be reasonably predicted at this time. The unavailable information would include, among other things, the impact of items currently excluded from the calculation of the components, adjustments for weather conditions that exceed a certain threshold of variability and adjustments for events or circumstances that may not be reflective of ongoing operating results. The probable significance of these items is also presently unknown and cannot be reasonably estimated.

Consolidated Results of Operations

The following table presents our consolidated results of operations for the years ended December 31:

(In millions)	2016	2015	2014	Increase		Increase	
				(Decrease)	(Decrease)	(Decrease)	(Decrease)
				2016 vs.	2015 vs.	2015 vs.	2014
				2015	2015	2015 vs.	2014
					%	%	%
Operating revenues	\$3,302	\$3,159	\$3,011	\$143	4.5	\$148	4.9
Operating expenses:							
Operation and maintenance	1,504	1,404	1,350	100	7.1	54	4.0
Depreciation and amortization	470	440	424	30	6.8	16	3.8
General taxes	258	243	236	15	6.2	7	3.0
(Gain) loss on asset dispositions and purchases	(10)	(3)	(2)	(7)	233.3	(1)	50.0
Total operating expenses, net	2,222	2,084	2,008	138	6.6	76	3.8
Operating income	1,080	1,075	1,003	5	0.5	72	7.2
Other income (expenses):							
Interest, net	(325)	(308)	(299)	(17)	5.5	(9)	3.0
Other, net	15	15	6	—	—	9	150.0
Total other income (expenses)	(310)	(293)	(293)	(17)	5.8	—	—
Income from continuing operations before income taxes	770	782	710	(12)	(1.5)	72	10.1
Provision for income taxes	302	306	280	(4)	(1.3)	26	9.3
Income from continuing operations	468	476	430	(8)	(1.7)	46	10.7
Loss from discontinued operations, net of tax	—	—	(7)	—	—	7	(100.0)
Net income attributable to common stockholders	\$468	\$476	\$423	\$(8)	(1.7)	\$53	12.5

Comparison of Consolidated Results of Operations

Operating revenues. In 2016, operating revenues increased \$143 million, or 4.5%, primarily due to a:

\$128 million increase in our Regulated Businesses segment primarily due to authorized rate increases to fund infrastructure investment growth, acquisitions, organic growth and incremental revenues from surcharges and balancing accounts; and

\$17 million increase in our Market-Based Businesses primarily attributable to our acquisition of Keystone in the third quarter of 2015, and incremental revenues from our Homeowner Services and Contract Operations Groups; partially offset by a decrease in our Military Services Group revenues.

In 2015, operating revenues increased \$148 million, or 4.9%, primarily due to an:

\$69 million increase in our Regulated Businesses segment primarily due to rate increases, infrastructure charges and increased demand, partially offset by decreased surcharges and balancing accounts in 2015;

\$53 million increase in our Market-Based Businesses primarily due to incremental revenue from increased construction project activity in our Military Services Group and contract growth in our Homeowners Services Group; and

\$26 million increase attributable to our Keystone acquisition, which is included in our Market-Based Businesses.

Operation and maintenance. In 2016, operation and maintenance expense increased \$100 million, or 7.1%, primarily due to a:

\$65 million charge in our Regulated Businesses attributable to the binding global agreement in principle to settle claims arising out of the Freedom Industries chemical spill in West Virginia;

\$16 million increase in our Regulated Businesses operations and maintenance expenses principally due to higher employee-related costs and litigation expenses, partially offset by lower insurance claims and uncollectible accounts expense; and

\$14 million increase in our Market-Based Businesses with \$11 million attributable to Keystone and the remaining \$3 million primarily due to incremental costs associated with growth in our Homeowner Services Group and Contract Operations Group.

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In 2015, operation and maintenance expense increased \$54 million, or 4.0%, primarily due to a:

\$45 million increase in our Market-Based Businesses primarily due to incremental costs in our Military Services Group and Homeowner Services Group corresponding with the increases in operating revenues discussed above; \$24 million increase attributable to our Keystone acquisition; partially offset by a \$17 million decrease in our Regulated Businesses segment primarily due to lower production costs, contract services and transportation costs, partially offset by higher casualty insurance costs.

Depreciation and amortization. In 2016 and 2015, depreciation and amortization expense increased \$30 million and \$16 million, or 6.8% and 3.8%, respectively. The increase for both periods was primarily due to additional utility plant placed in service. Also included in 2016 is incremental depreciation and amortization expense resulting from the acquisition of Keystone in the third quarter of 2015.

General Taxes. In 2016, general taxes increased \$15 million, or 6.2%, due to higher gross receipt taxes and higher property taxes in our Regulated Businesses segment.

Other income (expenses). In 2016, other expenses increased by \$17 million, or 5.8%, principally due to an increase in interest expense from the issuance of incremental long-term debt, as well as, an increase in short-term interest expense mainly due to higher levels of short-term borrowings during 2016 coupled with an increase in the average short-term borrowing rates in 2016 compared to 2015.

Provision for income taxes. In 2016, our provision for income taxes decreased by \$4 million, or 1.3%, due primarily to the decrease in pre-tax income. In 2015, our provision for income taxes increased \$26 million, or 9.3%, due primarily to the increase in pre-tax income. The effective tax rates were 39.2%, 39.1% and 39.4% for the years ended December 31, 2016, 2015 and 2014, respectively.

In December 2015, the accelerated tax benefit for bonus depreciation was legislatively extended through 2019. Bonus depreciation applies to certain qualified capital investments placed into service and allows for a bonus depreciation provision of 50% for both 2016 and 2017, 40% in 2018 and 30% in 2019. We have federal NOL carryforwards of \$1.2 billion as of December 31, 2016. As such, the election of bonus depreciation will be annually determined on a state-by-state basis and will include, among other items, an evaluation of our ability to utilize our federal NOL carryforwards, charitable contribution carryforwards, and state regulatory practices. If we elect bonus depreciation for all years, we would not expect to pay federal income taxes until 2021 under current Internal Revenue Service regulations.

Loss from discontinued operations, net of tax. As previously noted, the financial results of our Terratec line of business within our Market-Based Businesses was classified as discontinued operations for all periods presented. The sale of Terratec was completed in 2014. The 2014 loss from discontinued operations, net of tax includes the loss on sale, a tax valuation allowance and operating results.

Segment Results of Operations

Our segments are determined based on how we assess performance and allocate resources. We evaluate the performance of our segments and allocate resources based on several factors, with the primary measure being income from continuing operations.

We conduct our business primarily through one reportable segment, our Regulated Businesses segment. We also operate businesses that provide a broad range of related and complementary water and wastewater services, which includes four operating segments that individually do not meet the criteria of a reportable segment. These four non-reportable segments have been combined and are presented as Market-Based Businesses, which is consistent with

how management assesses the results of our businesses.

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Regulated Businesses Segment

The following table summarizes certain financial information for our Regulated Businesses segment:

(Dollars in millions)	For the Years Ended December 31,		
	2016	2015	2014
Operating revenues	\$2,871	\$2,743	\$2,674
Operation and maintenance	1,176	1,095	1,112
Operating expenses, net	1,852	1,732	1,726
Net income attributable to common stockholders	472	473	434

Operating revenues. The following tables and discussions provide explanation of the variances related to the three components of operating revenues—water revenues, wastewater revenues and other revenues:

(Dollars in millions)	For the Years Ended December 31,			Increase (Decrease)		Increase (Decrease)	
	2016	2015	2014	2016 vs. 2015	2014	2015 vs. 2014	
Operating Revenues				%		%	
Water service:							
Residential	\$1,592	\$1,536	\$1,515	\$56	3.6	\$21	1.4
Commercial	580	559	550	21	3.8	9	1.6
Industrial	134	130	132	4	3.1	(2)	(1.5)
Public and other	338	331	333	7	2.1	(2)	(0.6)
Other water revenues	53	39	26	14	35.9	13	50.0
Billed water services	2,697	2,595	2,556	102	3.9	39	1.5
Unbilled water services	13	(3)	(25)	16	(533.3)	22	(88.0)
Total water revenues	2,710	2,592	2,531	118	4.6	61	2.4
Wastewater revenues	112	97	93	15	15.5	4	4.3
Other revenues	49	54	50	(5)	(9.3)	4	8.0
Total operating revenues	\$2,871	\$2,743	\$2,674	\$128	4.7	\$69	2.6

(Gallons in millions)	For the Years Ended December 31,			Increase (Decrease)		Increase (Decrease)	
	2016	2015	2014	2016 vs. 2015	2015 vs. 2014		
Billed Water Sales Volume				%		%	
Water service							
Residential	174,599	175,653	176,975	(1,054)	(0.6)	(1,322)	(0.7)
Commercial	82,489	81,772	81,564	717	0.9	208	0.3
Industrial	38,465	38,991	39,833	(526)	(1.3)	(842)	(2.1)

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Public and other	50,678	51,324	52,710	(646)	(1.3)	(1,386)	(2.6)
Billed water services	346,231	347,740	351,082	(1,509)	(0.4)	(3,342)	(1.0)

Note: The correlation between water service revenues and billed water sales volumes shown above is impacted by the California drought. In 2015 and to a lesser extent in 2016 California experienced a severe drought. In April 2015, the Governor mandated water usage restrictions to reduce overall water usage by 25% in the state compared to 2013 levels. Revenue in California is decoupled from sales volume through the Water Revenue Adjustment Mechanism and the Modified Cost Balancing Account, aligning our water conservation goals with those of the state and our customers and therefore usage reductions do not impact earnings.

In 2016, operating revenues increased \$128 million, or 4.7%, primarily due to a:

- \$92 million increase from authorized rate increases, including infrastructure surcharges, primarily to fund investment growth in various states;
- \$23 million increase resulting from water and wastewater acquisitions as well as organic growth in existing systems;
- \$13 million net increase principally due to revenues from balancing accounts, with the majority associated with our California subsidiary, surcharges and other adjustments.

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In 2015, operating revenues increased \$69 million, or 2.6%, primarily due to a:

- \$45 million increase from rate increases and infrastructure charges;
- \$24 million increase from higher demand, mainly due to milder weather in 2014;
- \$6 million increase attributable to recent water and wastewater acquisitions coupled with organic growth in existing systems;
- \$5 million incremental revenues for late payments and reconnection fees; partially offset by a
- \$21 million decrease in surcharges and balancing accounts in our California subsidiary primarily related to the drought and the \$5 million charge associated with the July 2015 application filed with CPUC.

Operation and maintenance. The following table and discussions provide a detailed explanation of the variances related to the major components of operation and maintenance.

	For the Years Ended			Increase		Increase	
	December 31,			(Decrease)		(Decrease)	
	2016	2015	2014	2016 vs.	2015 vs.	2016 vs.	2015 vs.
(Dollars in millions)				2015	2014	%	%
Production costs	\$288	\$282	\$289	\$6	2.1	2.1	(2.4)
Employee-related costs	443	430	430	13	3.0	—	—
Operating supplies and services	212	194	217	18	9.3	(23)	(10.6)
Maintenance materials and supplies	73	70	68	3	4.3	2	2.9
Customer billing and accounting	54	63	61	(9)	(14.3)	2	3.3
Other	106	56	47	50	89.3	9	19.1
Total	\$1,176	\$1,095	\$1,112	\$81	7.4	\$(17)	(1.5)

Production costs

	For the Years			Increase		Increase	
	Ended December			(Decrease)		(Decrease)	
	2016	2015	2014	2016 vs.	2015 vs.	2016 vs.	2015 vs.
(Dollars in millions)				2015	2014	%	%
Purchased water	\$122	\$117	\$121	\$5	4.3	4.3	(3.3)
Fuel and power	87	89	92	(2)	(2.2)	(3)	(3.3)
Chemicals	47	48	46	(1)	(2.1)	2	4.3
Waste disposal	32	28	30	4	14.3	(2)	(6.7)
Total	\$288	\$282	\$289	\$6	2.1	\$(7)	(2.4)

In 2016, production costs increased \$6 million, or 2.1%, primarily due to a:

- \$3 million increase in purchased water attributable to price increases in our California subsidiary;
- \$4 million increase in waste disposal cost mainly attributable to higher sludge removal costs; partially offset by a
- \$2 million decrease in fuel and power primarily due to a price decrease in our New Jersey subsidiary.

In 2015, production costs decreased \$7 million, or 2.4%, primarily due to a:

\$9 million decrease primarily due to lower usage in our California subsidiary as a result of statewide conservation initiatives, including decreases of \$8 million in purchased water and \$1 million in fuel and power; partially offset by a

\$4 million increase in purchased water primarily due to price increases in our Illinois and New Jersey subsidiaries.

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Employee-related costs

	For the Years Ended December 31,			Increase (Decrease) 2016 vs. 2015		Increase (Decrease) 2015 vs. 2014	
	2016	2015	2014	2015	%	2014	%
(Dollars in millions)							
Salaries and wages	\$336	\$321	\$328	\$15	4.7	\$(7)	(2.1)
Pensions	28	30	27	(2)	(6.7)	3	11.1
Group insurance	58	60	55	(2)	(3.3)	5	9.1
Other benefits	21	19	20	2	10.5	(1)	(5.0)
Total	\$443	\$430	\$430	\$13	3.0	\$—	—

In 2016, employee-related costs increased \$13 million, or 3.0%, primarily due to a:

\$19 million increase in compensation in support of the growth of the business;

\$9 million increase in medical and prescription drug group insurance costs, offset by a

\$10 million decrease in other postretirement benefit plan expenses as a result of plan amendments in the third quarter of 2016; and

\$6 million decrease in costs due to an increase in capitalized labor attributable to an increase in capital investments.

In 2015, employee-related costs remained consistent primarily due to a:

\$14 million reduction largely attributable to fewer employees and an increase in capital projects, which in turn resulted in higher capitalization rates; partially offset by a

\$14 million increase in pension costs and postretirement benefits costs, which is included in the group insurance line above, primarily due to the adoption of new mortality assumptions and a decrease in the discount rate resulting in increased plan obligations.

Operating supplies and services

	For the Years Ended December 31,			Increase (Decrease) 2016 vs. 2015		Increase (Decrease) 2015 vs. 2014	
	2016	2015	2014	2015	%	2014	%
(Dollars in millions)							
Contracted services	\$84	\$81	\$88	\$3	3.7	\$(7)	(8.0)
Office supplies and services	45	44	45	1	2.3	(1)	(2.2)
Transportation	13	16	20	(3)	(18.8)	(4)	(20.0)
Rents	14	14	15	—	—	(1)	(6.7)
Other	56	39	49	17	43.6	(10)	(20.3)
Total	\$212	\$194	\$217	\$18	9.3	\$(23)	(10.6)

In 2016, operating supplies and services increased \$18 million, or 9.3%, primarily due to:

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\$8 million attributable to a judgment in litigation and related legal costs associated with a contract dispute;
\$5 million write-off related to timekeeping system costs that were capitalized under construction work in process;
and
\$3 million adjustment in 2015 attributable to the recognition of a regulatory asset for previously expensed business transformation costs as a result of the finalization of our California rate case.

In 2015, operating supplies and services decreased \$23 million, or 10.6%, primarily due to a:

\$5 million decrease in condemnation and conservation costs primarily due to initiatives in 2014 incurred by our California subsidiary;
\$3 million decrease in legal services;
\$3 million incremental costs in 2014 associated with the Freedom Industries chemical spill in West Virginia;

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\$3 million adjustment attributable to the recognition of a regulatory asset for previously expensed business transformation costs as a result of the finalization of our California rate case; and
 \$3 million decrease in transportation costs primarily due to lower fuel prices.

Maintenance materials and supplies

In 2016, maintenance materials and supplies increased \$3 million, or 4.3%, primarily due to a:

\$10 million increase in tank painting; partially offset by a
 \$ 5 million decrease in main breaks maintenance cost as a result of milder winter weather in 2016.

In 2015, maintenance materials and supplies increased \$2 million, or 2.9%, primarily due to an increase in tank painting costs.

Customer billing and accounting

Customer billing and accounting expenses decreased \$9 million, or 14.3%, in 2016 compared to 2015 primarily due to a decrease in uncollectible accounts expense primarily attributable to focused collection efforts.

Other

In 2016, other operation and maintenance expenses increased \$50 million, or 89.3%, primarily due to a:

\$65 million charge resulting from the binding global agreement in principle to settle claims associated with the Freedom Industries chemical spill in West Virginia; partially offset by a
 \$15 million decrease in casualty insurance costs attributable to a decrease in historical claims experience.

In 2015, other operation and maintenance expenses increased \$9 million, or 19.1%, primarily due to an increase in casualty insurance costs as a result of an increase in historical claims experience resulting in premium adjustments.

Operating expenses, net. For the year ended December 31, 2016, operating expenses, net increased \$120 million, or 6.9% compared to same period in prior year, primarily due to:

\$81 million increase in operation and maintenance expense as explained above;
 \$30 million increase in depreciation and amortization expense attributable to additional utility plant placed in service;
 and
 \$14 million increase in general tax expense most of which is associated with incremental property and gross receipt taxes.

Market-Based Businesses

The following table summarizes certain financial information for our Market-Based Businesses:

	For the Years Ended December 31,		
(Dollars in millions)	2016	2015	2014

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Operating revenues	\$451	\$434	\$355
Operation and maintenance	372	358	289
Operating expenses, net	391	370	300
Net income attributable to common stockholders	39	42	33

Operating revenues. In 2016, operating revenues increased \$17 million, or 3.9%, primarily due to a:

\$15 million increase resulting from Keystone, which was acquired in the third quarter of 2015;

\$11 million increase in our Homeowner Services Group revenues primarily due to contract growth, as well as expansion into new geographic areas and price increases for certain existing customers; and

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\$11 million increase in our Contract Operations Group revenues primarily due to contract growth, mostly associated with our contract in Camden, New Jersey; partially offset by a

\$21 million decrease in our Military Services Group revenues primarily due to lower capital upgrades in 2016 attributable to higher project activity in 2015 partially offset by incremental revenues due to the addition of Vandenberg Air Force Base in 2016.

In 2015, operating revenues increased \$79 million, or 22.3%, primarily due to a:

\$41 million increase in our Military Services Group revenues primarily due to additional construction project activities and the addition of two military contracts, Hill Air Force Base and Picatinny Arsenal, in the second half of 2015;

\$15 million increase in our Homeowner Services Group revenues primarily due to contract growth, mainly in New York City, and the expansion into other geographic areas; and

\$26 million increase resulting from Keystone; partially offset by a

\$3 million decrease in our Contract Operations Group revenues primarily attributable to the termination of certain municipal and industrial operations and maintenance contracts.

Operation and maintenance. The following table provides information regarding components of operation and maintenance:

	For the Years Ended December			Increase (Decrease)		Increase (Decrease)	
	31, 2016	2015	2014	2016 vs. 2015	%	2015 vs. 2014	%
(Dollars in millions)					%		%
Production costs	\$35	\$36	\$35	\$(1)	(2.8%)	\$1	2.9%
Employee-related costs	94	76	62	18	23.7%	14	22.6%
Operating supplies and services	165	182	138	(17)	(9.3%)	44	31.9%
Maintenance materials and supplies	68	57	47	11	19.3%	10	21.3%
Other	10	7	7	3	42.9%	—	—
Total	\$372	\$358	\$289	\$14	3.9%	\$69	23.9%

In 2016, operation and maintenance expense increased \$14 million, or 3.9%, primarily due to a:

\$11 million increase resulting from Keystone, including \$8 million in employee-related costs, \$1 million in operating supplies and services and \$1 million in other;

\$11 million increase in maintenance materials and supplies primarily due to contract growth in our Homeowner Services and Contract Operations Groups, as well as higher claims, marketing expenses, and costs associated with our investment in a new customer information system in our Homeowner Services Group; and

\$10 million increase in employee-related costs primarily due to the addition of the Vandenberg Air Force Base contract, as well as increased headcount resulting from contract growth in our Homeowner Services and Contract Operations Groups; partially offset by a

\$18 million decrease in operating supplies and services primarily due to lower capital upgrades in our Military Services Group, as discussed above.

In 2015, operation and maintenance expense increased \$69 million, or 23.9%, primarily due to a:

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\$30 million increase in our Military Services Group operating supplies and services primarily due to increased construction project activities and the addition of two military contracts;

- \$24 million increase resulting from Keystone, including \$9 million in employee-related costs, \$14 million in operating supplies and services and \$1 million in maintenance, materials and supplies;

\$7 million increase in our Homeowner Services Group maintenance and supplies primarily due to higher repair costs incurred, which was attributable to the increase in the number of contracts; and

\$5 million increase in our Military Services Group and Homeowners Services Group employee-related costs, which was attributable to the addition of two military contracts and increase in headcount.

Liquidity and Capital Resources

We regularly evaluate and monitor our cash requirements for capital investments, acquisitions, operations, commitments, debt maturities, interest and dividends. Our business is capital intensive, with a majority of this capital funded by cash flows from operations. When necessary, we also obtain funds from external sources, primarily in the debt markets and through short-term commercial paper borrowings. We also have access to equity capital markets, if needed. Our access to external financing on reasonable terms depends on our credit ratings and current business conditions, including that of the utility and water utility industries in general, as well as conditions in the debt or equity capital markets and the national and international economic and geopolitical arenas. If these business, market, financial and other conditions deteriorate to the extent that we no longer are able to access the capital markets on reasonable terms, we have access to an unsecured revolving credit facility with aggregate bank commitments of \$1.75 billion, with an expiration date of June 2020 (subject to extension by us for up to two one-year periods). We rely on this revolving credit facility and the capital markets to fulfill our short-term liquidity needs, to issue letters of credit and to support our commercial paper program. Disruptions in the credit markets may discourage lenders from extending the terms of such commitments or agreeing to new commitments. Market disruptions may also limit our ability to issue debt and equity securities in the capital markets. See “Credit Facility and Short-Term Debt” below for further discussion. In order to meet our short-term liquidity needs, we, through AWCC, our wholly owned financing subsidiary, issue commercial paper, which is supported by the revolving credit facility. AWCC had no outstanding borrowings and \$88 million of outstanding letters of credit under its credit facility as of December 31, 2016. As of December 31, 2016, AWCC had \$1.75 billion available under the credit facility that we could use to fulfill our short-term liquidity needs and to issue letters of credit, which supported our \$849 million outstanding commercial paper. We believe that our ability to access the capital markets, our revolving credit facility and our cash flows from operations will generate sufficient cash to fund our short-term requirements. We have no plans to issue equity under normal operating conditions in the foreseeable future with the limited exception of privately or investor-owned tuck-in acquisitions whose sellers require equity as necessary to complete the acquisition. We believe we have sufficient liquidity and ability to manage our expenditures should there be a disruption of the capital and credit markets. However, there can be no assurances that our lenders will meet their existing commitments or that we will be able to access the commercial paper or loan markets in the future on terms acceptable to us or at all.

In addition, our regulated subsidiaries receive advances and contributions from customers, home builders and real estate developers to fund construction necessary to extend service to new areas. Advances for construction are refundable for limited periods, which vary according to state regulations, as new customers begin to receive service or other contractual obligations are fulfilled. Amounts which are no longer refundable are reclassified to contributions in aid of construction. Utility plant funded by advances and contributions is excluded from our Regulated Businesses rate base. Generally, we depreciate contributed property and amortize contributions in aid of construction at the composite rate of the related property. Some of our subsidiaries do not depreciate contributed property, based on regulatory guidelines.

We use our capital resources, including cash, primarily to; (i) fund operating and capital requirements; (ii) pay interest and meet debt maturities; (iii) pay dividends; (iv) fund acquisitions; and (v) fund pension and postretirement benefit obligations. We invest a significant amount of cash on regulated capital projects where we expect to earn a long-term return on investment. Additionally, we operate in rate-regulated environments in which the amount of new investment recovery may be limited, and where such recovery generally takes place over an extended period of time, and certain capital recovery is also subject to regulatory lag. See Item 1—Business—Operating Segments—Regulated Businesses—Economic Regulation and Rate Making Process. We expect to fund future maturities of long-term debt through a combination of external debt and, to the extent available, cash flows from operations. Since we expect our capital investments over the next few years to be greater than or equal to our cash flows from operating activities, we have no plans to reduce debt significantly.

If necessary, the Company may delay certain capital investments or other funding requirements or pursue financing from other sources to preserve liquidity, if necessary. In this event, we believe we can rely upon cash flows from operations to meet our obligations and fund our minimum required capital investments for an extended period of time.

Cash Flows Provided by Operating Activities

Cash flows provided by operating activities primarily result from the sale of water and wastewater services and, due to the seasonality of demand, are generally greater during the third quarter of each fiscal year. Our future cash flows provided by operating activities will be affected by, among other things, economic utility regulation; inflation; compliance with environmental, health and safety standards; production costs; customer growth; declining customer usage of water; employee-related costs, including pension funding; weather and seasonality; taxes; and overall economic conditions.

Cash flows provided by operating activities have been a reliable, steady source of funding, sufficient to meet operating requirements, make our dividend payments and fund a portion of our capital expenditure requirements. We expect to seek access to debt capital markets to meet the balance of our capital expenditure requirements as needed. We also have access to equity capital markets, if needed. Operating cash flows can be negatively affected by changes in our rate regulated environments or changes in our customers' economic outlook and ability to pay for service in a timely manner. As such, our working capital needs are primarily limited to funding increases in customer accounts receivable and unbilled revenues mainly associated with revenue increases in our Regulated Businesses. We can provide no assurance that our customers' historical payment pattern will continue in the future. Sometimes our current liabilities exceed current assets because of the Company's debt due within one year and the periodic use of short-term debt as a funding source primarily to meet scheduled maturities of long-term debt, as well as cash needs which can fluctuate significantly due to the seasonality of the business, stage of our acquisitions and construction projects. We address cash timing differences through the aforementioned liquidity funding mechanisms.

The following table provides a summary of the major items affecting our cash flows provided by operating activities:

	For the For the Years Ended December 31,		
	2016	2015	2014
	(In millions)		
Net income	\$468	\$476	\$423
Add (subtract):			
Non-cash activities (a)	787	773	723
Impact of binding global agreement in principle	65	—	—
Changes in working capital (b)	9	(13)	3
Pension and postretirement benefit contributions	(53)	(57)	(52)
Net cash flows provided by operating activities	\$1,276	\$1,179	\$1,097

(a) Includes depreciation and amortization, provision for deferred income taxes and amortization of investment tax credits, provision for losses on accounts receivable, (gain) loss on asset dispositions and purchases, pension and non-pension postretirement benefits, and other non-cash items. Details of each component can be found in the Consolidated Statements of Cash Flows.

(b) Changes in working capital include changes to receivables and unbilled revenues, accounts payable and accrued liabilities, and other current assets and liabilities.

In 2016, cash flows provided by operations increased \$97 million primarily due to an increase in net income after non-cash adjustments and the impact of the binding global agreement in principle which is not expected to be paid until late 2017 or early 2018 and an increase in cash flows from working capital. The main factors contributing to net income increase are described in this section under "Comparison of Consolidated Results of Operations" and included higher operating revenue partially offset by higher operation and maintenance expense. The increase in non-cash activities was mainly the result of an increase in depreciation and amortization attributable to infrastructure investment projects placed into service. The change in working capital was primarily the result of the following: (1) a change in accounts receivable and unbilled revenues resulting from continuous improvement in our Regulated Businesses' collection efforts, as well as a decrease in unbilled revenues in our Military Services Group attributable to lower capital upgrades in 2016 as compared to the same period in 2015; (2) timing of accounts payable and accrued liabilities; and (3) change in other current assets and liabilities.

In 2015, cash flows provided by operations increased \$82 million primarily due to higher net income mainly as a result of improved operating performance. The main factors of this increase are described in this section under “Comparison of Consolidated Results of Operations” and included higher operating revenue partially offset by higher operation and maintenance expense. The increase in non-cash activities were mainly the result of an increase in pensions/post-retirement benefit expense and higher deferred taxes. Pension/postretirement benefit expense increased in 2015 due to changes in actuarial assumptions, including the adoption of new mortality tables. The increase in deferred taxes was due to accelerated tax depreciation related to infrastructure investments. Offsetting these increases was a decrease in working capital which was principally driven by an increase in receivables and unbilled revenues due to higher customer rates; an increase in accounts payable and accrued liabilities, most of which was associated with the timing of payments and increase in accrued insurance; and a decrease in other current assets and liabilities, net which is the result of an increase in the book overdraft liability in 2014 for which there was no comparable change in 2015.

The Company expects to make pension and postretirement contributions to the plan trusts of \$46 million in 2017, of which \$11 million was already made in 2017. In addition, we estimate that contributions will amount to \$43 million in 2018, \$38 million in both 2019 and 2020 and \$42 million in 2021. Actual amounts contributed could change materially from these estimates as a result of changes in assumptions and actual investment returns, among other factors.

Cash Flows Used in Investing Activities

Cash flows used in investing activities were as follows:

	For the For the Years Ended December 31, 2016 2015 2014 (In millions)		
Net capital expenditures	\$(1,311)	\$(1,160)	\$(956)
Proceeds from sale of assets and securities	9	5	14
Acquisitions	(204)	(197)	(9)
Other investing activities, net (a)	(81)	(113)	(63)
Net cash flows used in investing activities	\$(1,587)	\$(1,465)	\$(1,014)

(a) Includes removal costs from property, plant and equipment retirements, net and net funds released. In 2016 and 2015, cash flows used in investing activities increased primarily due to an increase in our regulated capital expenditures, principally from incremental investments associated with the replacement and renewal of our transmission and distribution infrastructure.

Our infrastructure investment plan consists of both infrastructure renewal programs, where we replace infrastructure, as needed, and major capital investment projects, where we construct new water and wastewater treatment and delivery facilities to meet new customer growth and water quality regulations. Our projected capital expenditures and other investments are subject to periodic review and revision to reflect changes in economic conditions and other factors.

The following table provides a summary of our historical capital expenditures related to upgrading our infrastructure and systems:

	For the Years Ended December 31, 2016 2015 2014 (In millions)		
Transmission and distribution	\$568	\$527	\$463
Treatment and pumping	151	136	97
Services, meter and fire hydrants	297	214	170
General structure and equipment	202	174	142
Business transformation project	—	—	8
Sources of supply	59	53	31
Wastewater	34	56	45
Total capital expenditures	\$1,311	\$1,160	\$956

In 2016, capital expenditures increased \$151 million, or 13.0%, primarily due to the continued investment across the majority of our infrastructure categories.

In 2015, capital expenditures increased \$204 million, or 21.3%, primarily due to continued investment across all infrastructure categories, mainly replacement and renewal of transmission and distribution infrastructure.

We also grow our business through acquisitions of water and wastewater systems, as well as other water-related services. These acquisitions are complementary to our existing business and support continued geographical diversification and growth of our operations. Generally, acquisitions are funded initially with short-term debt and later refinanced with the proceeds from long-term debt.

The following provides a summary of the acquisitions and dispositions affecting our cash flows from investing activities:

2016:

- Paid \$199 million for 15 water and wastewater systems representing approximately 42,000 customers.

- Made a non-escrowed deposit of \$5 million related to the pending McKeesport acquisition.

- Received \$9 million for the sale of assets and securities.

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2015:

• Paid \$133 million for the acquisition of our ninety-five percent interest in Water Solutions Holdings, LLC, the parent company of Keystone.

• Paid \$64 million for 14 water and wastewater systems representing approximately 24,000 customers.

• Received \$5 million for the sale of assets and securities.

2014:

• Paid \$9 million for 13 water and wastewater systems representing approximately 4,500 customers.

• Received \$14 million for the sale of assets and securities.

As previously noted, we expect to invest in the range of \$6.7 to \$7.3 billion from 2017 through 2021. In 2017, we estimate that our total capital expenditures will be \$1.5 billion, with \$1.25 billion allocated to improving infrastructure in our Regulated Businesses segment and \$220 million to \$340 million for acquisitions and strategic capital investments, including construction of our corporate headquarters building as discussed below.

We are moving forward with our plan to construct a new corporate headquarters to consolidate our support services and certain of our employees in our Market-Based Businesses within a single location. On December 2, 2016, we closed on the acquisition of the land on Camden, New Jersey's waterfront and began construction. The cost of construction is currently estimated to be up to \$165 million and exclusive of any tax incentives that the Company may receive.

Cash Flows from Financing Activities

Our financing activities, primarily focused on funding infrastructure construction expenditures, include the issuance of long-term and short-term debt, primarily through AWCC. In addition, new infrastructure may be funded with customer advances and contributions in aid of construction (net of refunds), which amounted to \$16 million for the year ended December 31, 2016 and \$26 million for the years ended December 31, 2015 and 2014. Based on the needs of our regulated subsidiaries and the Company, AWCC may borrow funds or issue its debt in the capital markets and then, through intercompany loans, provides those borrowings to the regulated subsidiaries and the Company. The regulated subsidiaries and the Company are obligated to pay their portion of the respective principal and interest to AWCC in the amount necessary to enable AWCC to meet its debt service obligations. Because the Company's borrowings are not a source of capital for the regulated subsidiaries, the Company is not able to recover the interest charges on the Company's debt through regulated water and wastewater rates. As of December 31, 2016, AWCC has made long-term fixed rate loans and commercial paper loans to our Regulated Businesses amounting to \$3.6 billion and \$600 million, respectively. Additionally, as of December 31, 2016, AWCC has made long-term fixed rate loans and commercial paper loans to the Company totaling \$1.4 billion and \$249 million, respectively.

On March 24, 2016, we entered into three forward starting swap agreements with an aggregate notional amount of \$225 million to reduce interest rate exposure for a portion of the expected refinancing of our 6.085% fixed-rate long-term debt maturing in 2017. These forward starting swap agreements terminate in December 2017 and have an average fixed interest rate of 2.29%. On July 1, 2016, we entered into another forward starting swap agreement with a notional amount of \$75 million at a 30-year fixed rate of 1.92% to reduce the average 30-year fixed rate on the total hedged notional amount of \$300 million to 2.20%. On February 8, 2017, we entered into a forward starting swap agreement with a notional amount of \$100 million to reduce interest rate exposure for a portion of the expected refinancing of our 5.62% fixed-rate long-term debt maturing in December 2018. This forward starting swap agreement terminates in November 2018 and has a fixed rate of 2.67%. Changes in the fair value of the forward starting swaps will be recognized in accumulated other comprehensive income (loss) until the agreement's termination date.

In May, 2015, the Company and AWCC filed with the SEC a universal shelf registration statement that enables us to meet our capital needs through the offer and sale to the public from time to time of an unlimited amount of various types of securities, including American Water common stock, preferred stock and other equity securities, and AWCC debt types of securities, all subject to market conditions and demand, general economic conditions, and as applicable, rating status. The shelf registration will expire in May 2018. During 2016, 2015 and 2014, \$550 million, \$550 million and \$500 million, respectively, of debt securities were issued pursuant to this and predecessor registration statements.

The following long-term debt was issued in 2016:

Company	Type	Rate	Maturity	Amount
American Water Capital Corp. (a)	Senior notes—fixed rate	3.00%-4.00%	2026-2046	\$ 550
Other American Water subsidiaries	Private activity bonds and government funded debt—fixed rate	1.00%-1.36%	2026-2037	3
Total issuances				\$ 553

(a) On November 17, 2016, AWCC completed an offering of its senior fixed rate notes. Proceeds from this offering were used to lend funds to the Company and its regulated utilities, to repay its commercial paper borrowings and for general corporate purposes.

In addition to the above issuances, we also assumed \$6 million of debt as a result of an acquisition in 2016, which had a fixed interest rate of 1.00% and matures in 2037.

The following long-term debt was retired through optional redemption or payment at maturity during 2016:

Company	Type	Rate	Maturity	Amount
American Water Capital Corp.	Senior notes—fixed rate	5.52%	2016	\$ 37
American Water Capital Corp.	Private activity bonds and government funded debt—fixed rate	1.79%-2.90%	2021-2031	1
Other American Water subsidiaries	Private activity bonds and government funded debt—fixed rate	0.00%-5.30%	2016-2041	104
Other American Water subsidiaries	Mandatorily redeemable preferred stock	8.49%-9.18%	2031-2036	2
Total retirements and redemptions				\$ 144

The following long-term debt was issued in 2015:

Company	Type	Rate	Maturity	Amount
AWCC (a)	Senior notes—fixed rate	3.40%-4.30%	2025-2045	\$ 550
Other American Water subsidiaries	Private activity bonds and government funded debt—fixed rate	1.00%-1.56%	2032	15
Total issuances				\$ 565

(a) On August 13, 2015, AWCC completed an offering of its senior fixed rate notes. Proceeds from this offering were used to lend funds to the Company and its regulated utilities, to refinance commercial paper borrowings and to

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finance redemptions of long-term debt.

In addition to the above issuances, we also assumed \$1 million of debt as a result of an acquisition in 2015, which has a fixed interest rate of 1.00% and matures in 2040.

The following long-term debt was retired through optional redemption or payment at maturity during 2015:

Company	Type	Rate	Maturity	Amount
AWCC	Private activity bonds and government			
	funded debt—fixed rate	1.79%-5.25%	2015-2031	\$ 36
AWCC	Senior notes—fixed rate	6.00%	2015	30
Other American Water subsidiaries (a)	Private activity bonds and government			
	funded debt—fixed rate	0.00%-5.40%	2015-2041	61
Other American Water subsidiaries	Mandatorily redeemable preferred stock	8.49%-9.18%	2031-2036	4
Total retirements and redemptions				\$ 131

(a) Includes \$2 million of non-cash redemptions resulting from the use of restricted funds.

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The following long-term debt was issued in 2014:

Company	Type	Rate	Maturity	Amount
AWCC (a)	Senior notes—fixed rate	3.40%-4.30%	2025-2042	\$ 500
	Private activity bonds and government funded debt—fixed			
Other subsidiaries (b)	rate	0.00%-5.00%	2031-2033	10
Total issuances				\$ 510

(a) On August 14, 2014, AWCC completed an offering of its senior fixed rate notes. Proceeds from this offering were used to lend funds to the Company and its regulated utilities, to refinance commercial paper borrowings and to finance redemptions of long-term debt.

(b) Proceeds from the above issuance were received in 2014 and have been utilized to fund certain specific projects. \$10.0 million of these proceeds are held in trust pending our certification that we have incurred qualifying capital expenditures. These issuances have been presented as non-cash on the Consolidated Statements of Cash Flows. Subsequent releases of all or a lesser portion of the funds by the trust are reflected as the release of restricted funds and are included in the investing activities in the Consolidated Statements of Cash Flows.

In addition to the above issuances, we also assumed \$2 million of debt as a result of acquisitions in 2014.

The following long-term debt was retired through optional redemption or payment at maturity during 2014:

Company	Type	Rate	Maturity	Amount
American Water Capital Corp.	Private activity bonds and government			
	funded debt—fixed rate	6.00%-6.75%	2018-2032	\$ 101
American Water Capital Corp.	Senior notes—fixed rate	6.00%	2039	59
Other American Water subsidiaries (a)	Private activity bonds and government			
	funded debt—fixed rate	0.00%-5.25%	2014-2041	79
Other American Water subsidiaries	Mandatorily redeemable preferred stock	8.49%-9.18%	2031-2036	2
Total retirements and redemptions				\$ 241

(a) Includes \$1.0 million of non-cash redemptions resulting from the use of restricted funds.

From time to time and as market conditions warrant, we may engage in long-term debt retirements via tender offers, open market repurchases or other viable alternatives to strengthen our balance sheets.

In February 2015, our Board of Directors authorized an anti-dilutive common stock repurchase program to mitigate the effect of shares issued through our dividend reinvestment, employee stock purchase and executive compensation activities. The program allows the Company to purchase up to 10 million shares of its outstanding common stock over an unrestricted period of time in the open market or through privately negotiated transactions. The program is conducted in accordance with Rule 10b-18 of the Exchange Act, and to facilitate the repurchases, the Company has also entered into a Rule 10b5-1 share repurchase plans with a third-party broker, which allows us to repurchase shares at times when we may otherwise be prevented from doing so under insider trading laws or because of self-imposed trading blackout periods. Subject to applicable regulations, the Company may elect to amend or cancel this repurchase

program or the share repurchase parameters at its discretion. As of December 31, 2016, we have repurchased an aggregate of approximately 3.3 million shares of common stock under this program.

Credit Facility and Short-Term Debt

We have an unsecured revolving credit facility of \$1.75 billion through June 2020. In March 2016, and under the terms of the revolving credit agreement dated June 30, 2015, AWCC exercised its right to increase its borrowing capacity available under our revolving credit facility from the aggregate maximum of \$1.25 billion to \$1.75 billion. All other terms, conditions and covenants with respect to the existing facility remained unchanged. On June 30, 2015, AWCC and its lenders extended the termination date of the revolving credit facility from October 2018 to June 2020. This amended and restated agreement also allowed AWCC to request to extend further the term of the credit facility for up to two one-year periods. An extension request must satisfy certain conditions and receive approval of the lenders, as set forth in the agreement.

Interest rates on advances under the facility are based on a credit spread to the Eurodollar rate or base rate in accordance with AWCC then-applicable Moody Investors Service or Standard & Poor's Ratings Services credit rating. At current ratings that spread would be 0.90%. The facility is used principally to support AWCC's commercial paper program and to provide up to \$150 million in letters of credit. Indebtedness under the facility is considered "debt" for purposes of a support agreement between American Water and AWCC, which serves as a functional equivalent of a guarantee by American Water of AWCC's payment obligations under the credit facility.

AWCC also has an outstanding commercial paper program that is backed by the revolving credit facility, the maximum aggregate amount of which on March 22, 2016 was increased from \$1.0 billion to \$1.6 billion.

Keystone has its own line of credit facility with a maximum availability of up to \$16 million dependent on a collateral base calculation. Borrowings under this facility are payable upon demand with interest being paid monthly. Interest accrues each day at a rate per annum equal to 2.75% above the greater of the one month or one day LIBOR. The borrowing base under the facility allows for financing up to the greater of the note or 80% of eligible accounts receivable. Based on the collateral assets at December 31, 2016, \$6 million was available to borrow. At December 31, 2016, there were no outstanding borrowings.

The following table summarizes information regarding the Company's aggregate credit facility commitments, letter of credit sub-limits and available funds under those revolving credit facilities, as well as outstanding amounts of commercial paper and outstanding borrowings under the respective facilities as of December 31, 2016 and 2015:

	Credit Facility Commitment (In millions)	Available Credit Capacity	Letter of Credit Sublimit	Available Letter of Credit Capacity	Commercial Paper Limit	Available Commercial Paper Capacity
December 31, 2016	\$ 1,766	\$ 1,668	\$ 150	\$ 62	\$ 1,600	\$ 751
December 31, 2015	1,266	1,182	150	68	1,000	374

The weighted-average interest rate on AWCC short-term borrowings for the years ended December 31, 2016 and 2015 was approximately 0.78% and 0.49%, respectively.

Capital Structure

The following table indicates the percentage of our capitalization represented by the components of our capital structure as of December 31:

	2016	2015	2014
Total common stockholders' equity	42.1%	43.5%	45.2%
Long-term debt and redeemable preferred stock at redemption value	46.4%	50.6%	50.1%
Short-term debt and current portion of long-term debt	11.5%	5.9%	4.7%
Total	100%	100%	100%

The changes in the capital structure between periods were mainly attributable to an increase in the current portion of long-term debt.

Debt Covenants

Our debt agreements contain financial and non-financial covenants. To the extent that we are not in compliance with these covenants, an event of default may occur under one or more debt agreements and we or our subsidiaries may be restricted in our ability to pay dividends, issue new debt or access our revolving credit facility. Our long-term debt

indentures contain a number of covenants that, among other things, prohibit or restrict the Company from issuing debt secured by the Company's assets, subject to certain exceptions. Our failure to comply with any of these covenants could accelerate repayment obligations.

Covenants in certain long-term notes and the revolving credit facility require us to maintain a ratio of consolidated debt to consolidated capitalization (as defined in the relevant documents) of not more than 0.70 to 1.00. On December 31, 2016, our ratio was 0.58 to 1.00 and therefore we were in compliance with the covenants.

Security Ratings

Our access to the capital markets, including the commercial paper market, and respective financing costs in those markets, may be directly affected by our securities ratings. We primarily access the debt capital markets, including the commercial paper market, through AWCC. However, we have also issued debt through our regulated subsidiaries, primarily in the form of tax exempt securities or borrowings under state revolving funds, to lower our overall cost of debt.

Our long-term and short-term credit rating and rating outlook as of December 31, 2016 are as follows:

Securities	Moody's Investors Service	Standard & Poor's Ratings Service
Rating Outlook	Stable	Stable
Senior unsecured debt	A3	A
Commercial paper	P2	A-1

A security rating is not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal at any time by the assigning rating agency, and each rating should be evaluated independently of any other rating. Security ratings are highly dependent upon our ability to generate cash flows in an amount sufficient to service our debt and meet our investment plans. We can provide no assurances that our ability to generate cash flows is sufficient to maintain our existing ratings. None of our borrowings are subject to default or prepayment as a result of the downgrading of these security ratings, although such a downgrading could increase fees and interest charges under our credit facility.

As part of the normal course of business, we routinely enter into contracts for the purchase and sale of water, energy, chemicals and other services. These contracts either contain express provisions or otherwise permit us and our counterparties to demand adequate assurance of future performance when there are reasonable grounds for doing so. In accordance with the contracts and applicable contract law, if we are downgraded by a credit rating agency, especially if such downgrade is to a level below investment grade, it is possible that a counterparty would attempt to rely on such a downgrade as a basis for making a demand for adequate assurance of future performance, which could include a demand that we provide collateral to secure our obligations. We do not expect to post any collateral which will have a material adverse impact on the Company's results of operations, financial position or cash flows.

Dividends

Our Board of Directors authorizes the payment of dividends. Our ability to pay dividends on our common stock is subject to having access to sufficient sources of liquidity, the net income and cash flows of our subsidiaries, the receipt of dividends and repayments of indebtedness from our subsidiaries, compliance with Delaware corporate and other laws, compliance with the contractual provisions of debt and other agreements, and other factors. The Company's dividend rate on its common stock is determined by the Board of Directors on a quarterly basis and takes into consideration, among other factors, current and possible future developments that may affect the Company's income and cash flows. Historically, dividends have been paid quarterly to holders of record approximately 15 days prior to the distribution date. Since the dividends on our common stock are not cumulative, only declared dividends are paid.

During 2016, 2015 and 2014, we paid \$261 million, \$239 million and \$216 million in cash dividends, respectively. The following table summarizes the per share cash dividends paid for the years ended December 31, 2016, 2015 and 2014:

	2016	2015	2014
December	\$0.375	\$0.34	\$0.31
September	\$0.375	\$0.34	\$0.31

June	\$0.375	\$0.34	\$0.31
March	\$0.34	\$0.31	\$0.28

On December 9, 2016, our Board of Directors declared a quarterly cash dividend payment of \$0.375 per share payable on March 1, 2017 to stockholders of record as of February 7, 2017.

Regulatory Restrictions

The issuance by the Company or AWCC of long-term debt or equity securities does not require authorization of any state PUC if no guarantee or pledge of the regulated subsidiaries is utilized. However, state PUC authorization is required to issue long-term debt at most of our regulated subsidiaries. Our regulated subsidiaries normally obtain the required approvals on a periodic basis to cover their anticipated financing needs for a period of time or in connection with a specific financing.

Under applicable law, our subsidiaries can pay dividends only from retained, undistributed or current earnings. A significant loss recorded at a subsidiary may limit the dividends that the subsidiary can distribute to us. Furthermore, the ability of our subsidiaries to pay upstream dividends or repay indebtedness to American Water is subject to compliance with applicable regulatory restrictions and financial obligations, including, for example, debt service and preferred and preference stock dividends, as well as

applicable corporate, tax and other laws and regulations, and other agreements or covenants made or entered into by American Water and its subsidiaries.

Insurance Coverage

We carry various property, casualty and financial insurance policies with limits, deductibles and exclusions that we believe are consistent with industry standards. However, insurance coverage may not be adequate or available to cover unanticipated losses or claims. Additionally, annual policy renewals can be impacted by claims experience which in turn can impact coverage terms and conditions on a going forward basis. We are self-insured to the extent that losses are within the policy deductible or exceed the amount of insurance maintained. Such losses could have a material adverse effect on our short-term and long-term financial condition and our results of operations and cash flows.

Contractual Obligations and Commitments

We enter into contractual obligations with third parties in the ordinary course of business. Information related to our contractual obligations as of December 31, 2016 is summarized in the table below:

Contractual obligation	Total	1 year or Less	2-3 Years	4-5 years	More Than 5 years
	(In millions)				
Long-term debt obligations (a)	\$6,312	\$572	\$620	\$498	\$4,622
Interest on long-term debt (b)	4,402	332	560	521	2,989
Operating lease obligations (c)	122	14	23	15	70
Purchase water obligations (d)	1,042	56	122	129	735
Other purchase obligations (e)	142	142	—	—	—
Postretirement benefit plans' obligations (f)	6	6	—	—	—
Pension plan obligations (f)	195	40	75	80	—
Preferred stocks with mandatory redemption requirements	12	2	3	3	4
Interest on preferred stock with mandatory redemption requirements	6	1	1	1	3
Other obligations (g)	1,102	337	302	101	362
Total	\$13,341	\$1,502	\$1,706	\$1,348	\$8,785

Note: The above table reflects only financial obligations and commitments. Therefore, performance obligations associated with our Market-Based Businesses are not included in the above amounts. Also, uncertain tax positions of \$169 million are not reflected in this table as we cannot predict when open tax years will close with completed examinations. See Note 13—Income Taxes in the Notes to the Consolidated Financial Statements.

(a) Represents sinking fund obligations, debt maturities and capital lease obligations.

(b) Represents expected interest payments on outstanding long-term debt. Amounts reported may differ from actual due to future financing of debt.

- (c) Represents future minimum payments under non-cancelable operating leases, primarily for the lease of motor vehicles, buildings, land and other equipment including water facilities and systems constructed by partners under the Public-Private Partnerships described below.
- (d) Represents future payments under water purchase agreements for minimum quantities of water.
- (e) Represents the open purchase orders as of December 31, 2016, for goods and services purchased in the ordinary course of business.
- (f) Represents contributions expected to be made to pension and postretirement benefit plans for the years 2017 through 2021.
- (g) Includes an estimate of advances for construction to be refunded, capital expenditures estimated to be required under legal and binding contractual obligations, contracts entered into for energy purchases, a liability associated with a conservation agreement and service agreements.

Public-Private Partnerships

WVAWC has entered into a series of agreements with various public entities, which we refer to as the Partners, to establish certain joint ventures, commonly referred to as “public-private partnerships.” Under the public-private partnerships, WVAWC constructed utility plant, financed by WVAWC, and the Partners constructed utility plant (connected to WVAWC’s property), financed by the Partners. WVAWC agreed to transfer and convey some of its real and personal property to the Partners in exchange for an equal principal amount of Industrial Development Bonds, commonly referred to as IDBs, issued by the Partners under a state Industrial Development Bond and Commercial Development Act. WVAWC leased back the total facilities, including portions funded by both WVAWC and the Partners, under leases for a period of 40 years.

The leases have payments that approximate the payments required by the terms of the IDBs. These payments are considered “PILOT payments” which represent payments in lieu of taxes and approximate what WVAWC otherwise would pay as property taxes

on the properties. We have presented the transaction on a net basis in the consolidated financial statements. The carrying value of the transferred facilities, which is presented in property, plant and equipment in the Consolidated Balance Sheets, was approximately \$152 million as of December 31, 2016.

Performance Obligations

We have entered into agreements for the provision of services to water and wastewater facilities for the United States military, municipalities and other customers. These military services agreements expire between 2051 and 2065 and have remaining performance commitments as measured by estimated remaining contract revenues of \$3.1 billion as of December 31, 2016. The operations and maintenance agreements with municipalities and other customers expire between 2015 and 2048 and have remaining performance commitments as measured by estimated remaining contract revenue of \$794 million as of December 31, 2016. Some of the Company's long-term contracts to operate and maintain a municipality's, federal government's or other party's water or wastewater treatment and delivery facilities include responsibility for certain major maintenance for some of the facilities, in exchange for an annual fee.

Critical Accounting Policies and Estimates

The application of critical accounting policies is particularly important to our financial condition and results of operations and provides a framework for management to make significant estimates, assumptions and other judgments. Although our management believes that these estimates, assumptions and other judgments are appropriate, they relate to matters that are inherently uncertain. Accordingly, changes in the estimates, assumptions and other judgments applied to these accounting policies could have a significant impact on our financial condition and results of operations as reflected in our consolidated financial statements.

Our financial condition, results of operations and cash flows are impacted by the methods, assumptions and estimates used in the application of critical accounting policies. Management believes that the areas described below require significant judgment in the application of accounting policy or in making estimates and assumptions in matters that are inherently uncertain and that may change in subsequent periods. Judgments made include anticipated recovery of costs, especially through regulated operations, the likelihood of success of particular projects, possible legal and regulatory challenges, assumptions made in regards to pension and other benefit and forecast assumptions utilized in goodwill impairment testing. Our management has reviewed these critical accounting policies, and the estimates and assumptions regarding them, with our audit committee. In addition, our management has also reviewed the following disclosures regarding the application of these critical accounting policies with the audit committee.

For further information, see Note 2—Significant Accounting Policies in the Notes to the Consolidated Financial Statements.

Rate Regulation and Regulatory Accounting

Our regulated utility subsidiaries are subject to regulation by state PUCs and the local governments of the states in which they operate. As such, we follow the authoritative accounting principles required for rate regulated entities, which requires us to reflect the effects of rate regulation in our financial statements. Use of the authoritative guidance is applicable to utility operations that meet the following criteria: (i) third-party regulation of rates; (ii) cost-based rates; and (iii) a reasonable assumption that rates will be set to recover the estimated costs of providing service plus a return on net investment, or rate base. As of December 31, 2016, we concluded that the operations of our regulated subsidiaries met the criteria.

The application of the accounting principles has a further effect on the Company's financial statements as a result of the estimates of allowable costs used in the ratemaking process. We make significant assumptions and estimates to

quantify amounts recorded as regulatory assets and liabilities. Such judgements include but are not limited to assets and liabilities related to regulated acquisitions, pension and postretirement benefits, depreciation rates and taxes. Due to timing and other differences in the collection of revenue, these accounting principles allow a cost that would otherwise be charged as an expense by an unregulated entity to be capitalized as a regulatory asset if it is probable that such cost is recoverable through future rates; conversely, the principles allow creation of a regulatory liability for amounts collected in rates to recover costs expected to be incurred in the future or amounts collected in excess of costs incurred and are refundable to customers. Regulators may also impose certain fines or penalties.

As of December 31, 2016, we have recorded \$1.3 billion of regulatory assets and \$403 million of regulatory liabilities within our consolidated financial statements. See Note 6—Regulatory Assets and Liabilities in the Notes to Consolidated Financial Statements for further information regarding the significant regulatory assets and liabilities.

For each regulatory jurisdiction where we conduct business, we assess at the end of each reporting period whether the regulatory assets and liabilities continue to meet the criteria for probable future recovery or settlement. This assessment includes consideration of factors such as changes in applicable regulatory environments, recent rate orders on recovery of a specific or similar incurred cost to other regulated entities in the same jurisdiction, the status of any pending or potential legislation that could impact the ability to

recover costs through regulated rates. If subsequent events indicate that the regulatory assets or liabilities no longer meet the criteria for probable future recovery or settlement, our statement of operations and financial position could be materially affected. In addition, if we conclude in a future period that a separable portion of the business no longer meets the criteria, we are required to eliminate the financial statement effects of regulation for that part of the business, which would include the elimination of any or all regulatory assets and liabilities that had been recorded in the consolidated financial statements. Failure to meet the criteria of the authoritative guidance could materially impact our consolidated financial statements.

Goodwill

The Company has recorded \$1.3 billion of goodwill at December 31, 2016 and 2015. The Company's annual impairment test is performed as of November 30 of each year, in conjunction with the timing of the completion of the Company's annual business plan. The Company also undertakes interim reviews when the Company determines that a triggering event that would more likely than not reduce the fair value of a reporting unit below its carrying value has occurred.

Entities assessing goodwill for impairment have the option of first performing a qualitative assessment to determine whether a quantitative assessment is necessary. In performing a qualitative assessment, the Company assess and makes judgments, among other things around, macroeconomic conditions, industry and market considerations, overall financial performance, cost factors and entity specific events. If an entity determines, on the basis of qualitative factors, that the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If the entity bypasses the qualitative assessment or performs the qualitative assessment, but determines that it is more likely than not that its fair value is less than its carrying amount, a quantitative two-step, fair value-based test is performed.

The first step compares the estimated fair value of the reporting unit to its respective net carrying values, including goodwill, on the measurement date. If the estimated fair value of any reporting unit is less than such reporting unit's carrying value, then the second step is performed to measure the amount of the impairment loss (if any) for such reporting unit.

The second step requires an allocation of fair value to the individual assets and liabilities using purchase price allocation accounting guidance in order to determine the implied fair value of goodwill. If the implied fair value of goodwill is less than the carrying amount for the reporting unit, an impairment loss is recorded as a reduction to goodwill and a charge to operating expense. Application of the goodwill impairment test requires significant management judgment, including the identification of reporting units and determining the fair value of the reporting unit. Management estimates fair value using a combination of a discounted cash flow analysis and market multiples analysis. Significant assumptions used in these fair value analyses include, but are not limited to, discount and growth rates and projected terminal values.

For further information, see Note 7—Goodwill and Other Intangible Assets in the Notes to the Consolidated Financial Statements.

Impairment of Long-Lived Assets

Long-lived assets include land, buildings, equipment and long-term investments. Long-lived assets, other than investments and land, are depreciated over their estimated useful lives, and are reviewed for impairment whenever changes in circumstances indicate the carrying value of the asset may not be recoverable. Such circumstances would include items such as a significant decrease in the market value of a long-lived asset, a significant adverse change in the manner in which the asset is being used or planned to be used or in its physical condition, or a history of operating

or cash flow losses associated with the use of the asset. In addition, changes in the expected useful life of these long-lived assets may also be an impairment indicator. When such events or changes occur, we estimate the fair value of the asset from future cash flows expected to result from the use and, if applicable, the eventual disposition of the assets, and compare that to the carrying value of the asset. If the carrying value is greater than the fair value, an impairment loss is recognized equal to the amount by which the asset's carrying value exceeds its fair value. The key variables that must be estimated include assumptions regarding sales volume, rates, operating costs, labor and other benefit costs, capital additions, assumed discount rates and other economic factors. These variables require significant management judgment and include inherent uncertainties since they are forecasting future events. A variation in the assumptions used could lead to a different conclusion regarding the realizability of an asset and, thus, could have a significant effect on the consolidated financial statements.

The long-lived assets of the regulated utility subsidiaries are grouped on a separate entity basis for impairment testing as they are integrated state-wide operations that do not have the option to curtail service and generally have uniform tariffs. A regulatory asset is charged to earnings if and when future recovery in rates of that asset is no longer probable.

The fair values of long-term investments are dependent on the financial performance and solvency of the entities in which we invest, as well as volatility inherent in the external markets. In assessing potential impairment for these investments, we consider these

factors. If such assets are considered impaired, an impairment loss is recognized equal to the amount by which the asset's carrying value exceeds its fair value.

Revenue Recognition

Revenues of the regulated utility subsidiaries are recognized as water and wastewater services are delivered to customers and include amounts billed to customers on a cycle basis and unbilled amounts based on estimated usage from the date of the meter reading associated with the latest customer bill to the end of the accounting period. Unbilled utility revenues as of December 31, 2016 and 2015 were \$161 million and \$144 million, respectively. Increases or decrease in volumes delivered to the utilities' customers and rate mix due to changes in usage patterns in customer classes in the period could be significant to the calculation of unbilled revenue. Changes in the timing of meter reading schedules and the number and type of customers scheduled for each meter reading date would also have an effect on the estimated unbilled revenue.

Revenue from Market-Based Businesses is recognized as services are rendered. Revenues from certain construction projects are recognized over the contract term based on the costs incurred to date during the period compared to the total estimated costs over the entire contract. Losses on contracts are recognized during the period in which the loss first becomes probable and estimable. Revenues recognized during the period in excess of billings on construction contracts are recorded as unbilled revenue. Unbilled market-based revenues as of December 31, 2016 and 2015 were \$102 million and \$123 million, respectively. Billings in excess of revenues recognized on construction contracts are recorded as other current liabilities on the balance sheet until the recognition criteria are met. Changes in contract performance and related estimated contract profitability may result in revisions to costs and revenues and are recognized in the period in which revisions are determined.

Accounting for Income Taxes

Significant management judgment is required in determining the provision for income taxes, primarily due to the uncertainty related to tax positions taken, as well as deferred tax assets and liabilities, valuation allowances and the utilization of net operating loss carryforwards.

In accordance with applicable authoritative guidance, we account for uncertain income tax positions using a benefit recognition model with a two-step approach, including a more-likely-than-not recognition threshold and a measurement approach based on the largest amount of tax benefit that is greater than 50% likely of being realized upon ultimate settlement. If it is not more-likely-than-not that the benefit of the tax position will be sustained on its technical merits, no benefit is recorded. Uncertain tax positions that relate only to timing of when an item is included on a tax return are considered to have met the recognition threshold. Management evaluates each position based solely on the technical merits and facts and circumstances of the position, assuming the position will be examined by a taxing authority having full knowledge of all relevant information. Significant judgment is required to determine whether the recognition threshold has been met and, if so, the appropriate amount of unrecognized tax benefit to be recorded in the consolidated financial statements.

We evaluate the probability of realizing deferred tax assets quarterly by reviewing a forecast of future taxable income and our intent and ability to implement tax planning strategies, if necessary, to realize deferred tax assets. We also assess our ability to utilize tax attributes, including those in the form of carryforwards, for which the benefits have already been reflected in the financial statements. We record valuation allowances for deferred tax assets when we conclude it is more-likely-than-not such benefit will not be realized in future periods.

Actual income taxes could vary from estimated amounts due to the future impacts of various items, including changes in income tax laws, our forecasted financial condition and results of operations, failure to successfully implement tax

planning strategies, recovery of taxes through the regulatory process for our Regulated Businesses, as well as results of audits and examinations of filed tax returns by taxing authorities. While we believe the resulting tax balances as of December 31, 2016 and 2015 are appropriately accounted for in accordance with the applicable authoritative guidance, the ultimate outcome of tax matters could result in favorable or unfavorable adjustments to our consolidated financial statements and such adjustments could be material. See Note 13—Income Taxes in the Notes to Consolidated Financial Statements for additional information regarding income taxes.

Accounting for Pension and Postretirement Benefits

We maintain noncontributory defined benefit pension plans covering eligible employees of our regulated utility and shared service operations. Benefits under the plans are based on the employee's years of service and compensation. The pension plans were closed for most employees hired on or after January 1, 2006. Union employees hired on or after January 1, 2001 had their accrued benefit frozen and will be able to receive this benefit as a lump sum upon termination or retirement. Union employees hired on or after January 1, 2001 and non-union employees hired on or after January 1, 2006 are provided with a 5.25% of base pay defined

contribution plan. We also maintain other postretirement benefit plans, which provide varying levels of medical and life insurance for eligible retirees. These retiree welfare plans are closed for union employees hired on or after January 1, 2006. The plans had previously closed for non-union employees hired on or after January 1, 2002. The Company also has several unfunded noncontributory supplemental non-qualified pension plans that provide additional retirement benefits to certain employees. The Company does not participate in a multiemployer plan. See Note 14—Employee Benefits in the Notes to Consolidated Financial Statements for further information regarding the accounting for the defined benefit pension plans and postretirement benefit plans. The Company’s pension and postretirement benefit costs are developed from actuarial valuations. Inherent in these valuations are key assumptions provided by the Company to its actuaries, including the discount rate and expected long-term rate of return on plan assets. Material changes in the Company’s pension and postretirement benefit costs may occur in the future due to changes in these assumptions as well as fluctuations in plan assets. The assumptions are selected to represent the average expected experience over time and may differ in any one year from actual experience due to changes in capital markets and the overall economy. These differences will impact the amount of pension and other postretirement benefit expense that the Company recognizes. The primary assumptions are:

- **Discount Rate**—The discount rate is used in calculating the present value of benefits, which are based on projections of benefit payments to be made in the future. The objective in selecting the discount rate is to measure the single amount that, if invested at the measurement date in a portfolio of high-quality debt instruments, would provide the necessary future cash flows to pay the accumulated benefits when due;
- **Expected Return on Plan Assets (“EROA”)**—Management projects the future return on plan assets considering prior performance, but primarily based upon the plans’ mix of assets and expectations for the long-term returns on those asset classes. These projected returns reduce the net benefit costs we record currently;
- **Rate of Compensation Increase**—Management projects employees’ pay increases, which are used to project employees’ pension benefits at retirement;
- **Health Care Cost Trend Rate**—Management projects the expected increases in the cost of health care; and
- **Mortality**—In 2014, management adopted a table based on the Society of Actuaries RP 2014 mortality table including a generational BB-2D projection scale.

The discount rate assumption, which is determined for the pension and postretirement benefit plans independently, is subject to change each year, consistent with changes in applicable high-quality, long-term corporate bond indices. We use an approach that approximates the process of settlement of obligations tailored to the plans’ expected cash flows by matching the plans’ cash flows to the coupons and expected maturity values of individually selected bonds. The yield curve was developed for a portfolio containing the majority of United States-issued AA-graded non-callable (or callable with make-whole provisions) corporate bonds. For each plan, the discount rate was developed as the level equivalent rate that would yield the same present value as using spot rates aligned with the projected benefit payments. The discount rate for determining pension benefit obligations was 4.28%, 4.66% and 4.24% at December 31, 2016, 2015 and 2014, respectively. The discount rate for determining other post-retirement benefit obligations was 4.26%, 4.67% and 4.24% at December 31, 2016, 2015 and 2014, respectively.

In selecting an expected return on plan assets, we considered tax implications, past performance and economic forecasts for the types of investments held by the plans. The long-term EROA assumption used in calculating pension cost was 7.02% for 2016, 6.91% for 2015, and 6.91% for 2014. The weighted average EROA assumption used in calculating other postretirement benefit costs was 5.37% for 2016, 4.92% for 2015 and 5.87% for 2014.

The asset allocations for the Company’s U.S. pension plan by asset category were as follows:

Target Allocation	Percentage of Plan Assets as of December 31,
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Asset Category	2017		2016		2015	
Equity securities	52	%	49	%	50	%
Fixed income	40	%	42	%	41	%
Real Estate	6	%	7	%	7	%
Real estate investment trusts (“REITs”)	2	%	2	%	2	%
Total	100	%	100	%	100	%

The investment policy guidelines of the pension plan require that the fixed income portfolio has an overall weighted average credit rating of AA or better by Standard & Poor’s and the minimum credit quality for fixed income securities must be BBB- or better. Up to 20% of the portfolio may be invested in collateralized mortgage obligations backed by the United States Government.

The Company's other postretirement benefit plans are partially funded. The asset allocations for the Company's other postretirement benefit plans by asset category were as follows:

Asset Category	Target Allocation		Percentage of Plan Assets as of December 31,			
	2017		2016		2015	
Equity securities	32	%	33	%	32	%
Fixed income	68	%	67	%	68	%
REITs	—		—		—	
Total	100	%	100	%	100	%

The Company's investment policy, and related target asset allocation, is evaluated periodically through asset liability studies. The studies consider projected cash flows of maturity liabilities, projected asset class return risk, and correlation and risk tolerance.

The pension and postretirement welfare plan trusts investments include debt and equity securities held either directly or through commingled funds. The trustee for the Company's defined benefit pension and postretirement welfare plans uses independent valuation firms to calculate the fair value of plan assets. Additionally, the Company independently verifies the assets values. Approximately 44.8% of the assets are valued using the quoted market price for the assets in an active market at the measurement date, while 55.2% of the assets are valued using other inputs.

In selecting a rate of compensation increase, we consider past experience in light of movements in inflation rates. Our rate of compensation increase was 3.07% for 2016, 3.10% for 2015 and 3.12% for 2014.

In selecting health care cost trend rates, we consider past performance and forecasts of increases in health care costs. Our health care cost trend rate used to calculate the periodic cost was 6.50% in 2016 gradually declining to 5.00% in 2021 and thereafter.

Assumed health care cost trend rates have a significant effect on the amounts reported for the other postretirement benefit plans. The health care cost trend rate is based on historical rates and expected market conditions. A one-percentage-point change in assumed health care cost trend rates would have the following effects:

Change in Actuarial Assumption	Impact on Other Postretirement Benefit Obligations of December 31, 2016		Impact on 2016 Total Service Benefit Obligations as of December 31, 2016	
			Interest Cost Components	
Increase assumed health care cost trend by 1%	\$ 74		\$ 7	
Decrease assumed health care cost trend by 1%	\$ (61)		\$ (6)	

We will use a discount rate and EROA of 4.28% and 6.49%, respectively, for estimating our 2017 pension costs. Additionally, we will use a discount rate and expected blended return based on weighted assets of 4.26% and 5.09%, respectively, for estimating our 2017 other postretirement benefit costs. A decrease in the discount rate or the EROA would increase our pension expense. Our 2016 and 2015 pension and postretirement benefit costs were \$54 million and \$61 million, respectively. The Company expects to make pension and postretirement benefit contributions to the plan trusts of \$39 million, \$37 million, \$38 million, \$38 million and \$42 million in 2017, 2018, 2019, 2020 and 2021, respectively. Actual amounts contributed could change significantly from these estimates. The assumptions are reviewed annually and at any interim re-measurement of the plan obligations. The impact of assumption changes is reflected in the recorded pension and postretirement benefit amounts as they occur, or over a period of time if allowed under applicable accounting standards. As these assumptions change from period to period, recorded pension and postretirement benefit amounts and funding requirements could also change.

Accounting for Contingencies

We record loss contingencies when management determines that the outcome of future events is probable of occurring and when the amount of the loss can be reasonably estimated. The determination of a loss contingency is based on management judgment and estimates about the likely outcome of the matter, which may include an analysis of different scenarios. Liabilities are recorded or adjusted when events or circumstances cause these judgments or estimates to change. In assessing whether a loss is reasonably possible, management considers many factors, which include, but are not limited to: the nature of the litigation, claim or assessment, available information, opinions or views of legal counsel and other advisors, and the experience gained from similar cases or situations. We provide disclosures for material contingencies when management deems there is a reasonable possibility that a loss or an additional loss may be incurred. We provide estimates of reasonably possible losses when such estimates may be reasonably determined, either as a single amount or within a reasonable range.

Actual amounts realized upon settlement of contingencies may be different than amounts recorded and disclosed and could have a significant impact on the liabilities, revenue and expenses recorded on the consolidated financial statements. For a discussion of contingencies, see Note 15—Commitments and Contingencies in the Notes to Consolidated Financial Statements.

New Accounting Standards

See Note 2—Significant Accounting Policies in the Notes to Consolidated Financial Statements for a description of recent accounting standards.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk associated with changes in commodity prices, equity prices and interest rates. We are exposed to risks from changes in interest rates as a result of our issuance of variable and fixed rate debt and commercial paper. We manage our interest rate exposure by limiting our variable rate exposure and by monitoring the effects of market changes in interest rates. We also have the ability to enter into financial derivative instruments, which could include instruments such as, but not limited to, interest rate swaps, forward starting swaps, swaptions and U.S. Treasury lock agreements to manage and mitigate interest rate risk exposure. As of December 31, 2016, a hypothetical increase of interest rates by 1% associated with our short-term borrowings would result in a \$9 million increase in short-term interest expense.

In July 2010, we entered into an interest rate swap agreement with a notional amount of \$100 million. This agreement effectively converted the interest on \$100 million of outstanding 6.085% fixed rate debt maturing 2017 to a variable rate of six-month LIBOR plus 3.422%. We entered into this interest rate swap to mitigate interest cost at the parent company relating to debt that was incurred by our prior owners and was not used in any manner to finance the cash needs of our subsidiaries. The interest rate swap reduced interest expense by \$2 million for the years ended December 31, 2016, 2015 and 2014. As the swap interest rates are fixed through April 2017, a hypothetical 1% increase in the interest rates associated with the interest rate swap agreement would result in a \$1 million increase in interest expense for the year ended December 31, 2016. This calculation holds all other variables constant and assumes only the discussed changes in interest rates.

The Company has four forward starting swap agreements with an aggregate notional amount of \$300 million to reduce interest rate exposure on debt expected to be issued in 2017. The forward starting swap agreements terminate in

December 2017 and have an average fixed rate of 2.20%. When entering into forward starting interest rate swaps, the Company is subject to market risk with respect to changes in the underlying benchmark interest rate that impacts the fair value of the forward starting interest rate swaps. We manage market risk by matching terms of the swaps with the critical terms of the expected debt issuance. The fair value of the forward starting swaps at December 31, 2016 was \$27 million. A hypothetical 1.00% adverse change in interest rates would result in a decrease in the fair value of our forward starting swaps of approximately \$65 million at December 31, 2016.

Our risks associated with price increases for chemicals, electricity and other commodities are reduced through contractual arrangements and the expected ability to recover price increases through rates, in the next general rate case proceeding or other regulatory mechanism, as authorized by each regulatory jurisdiction. Non-performance by these commodity suppliers could have a material adverse impact on our results of operations, financial position and cash flows.

The market price of our common stock may experience fluctuations, which may be unrelated to our operating performance. In particular, our stock price may be affected by general market movements as well as developments specifically related to the water and wastewater industry. These could include, among other things, interest rate movements, quarterly variations or changes in financial estimates by securities analysts and governmental or regulatory actions. This volatility may make it difficult for us to access the capital markets in the future through additional offerings of our common stock, regardless of our financial performance, and such difficulty may preclude us from being able to take advantage of certain business opportunities or meet business obligations.

We are exposed to credit risk through our water, wastewater and other water-related services provided by our Regulated Businesses and Market-Based Businesses. Our Regulated Businesses serve residential, commercial, industrial and other customers while our Market-Based Businesses engage in business activities with developers, government entities and other customers. Our primary credit risk is exposure to customer default on contractual obligations and the associated loss that may be incurred due to the non-payment of customer accounts receivable balances. Our credit risk is managed through established credit and collection policies which are in compliance with applicable regulatory requirements and involve monitoring of customer exposure and the use of credit risk mitigation measures such as letters of credit or prepayment arrangements. Our credit portfolio is diversified with no significant customer or industry concentrations. In addition, our Regulated Businesses are generally able to recover all prudently incurred costs including uncollectible customer accounts receivable expenses and collection costs through rates.

The Company's retirement trust assets are exposed to the market prices of debt and equity securities. Changes to the retirement trust asset value can impact the Company's pension and other benefits expense, funded status and future minimum funding requirements. Our risk is reduced through our ability to recover pension and other benefit costs through rates. In addition, pension and other benefits liabilities decrease as fixed income asset values decrease (fixed income yields rise) since the rate at which we discount pension and other retirement trust asset future obligations is highly correlated to fixed income yields.

We are also exposed to a potential national economic recession or deterioration in local economic conditions in the markets in which we operate. The credit quality of our customer accounts receivable is dependent on the economy and the ability of our customers to manage through unfavorable economic cycles and other market changes. In addition, as a result of the downturn in the economy and heightened sensitivity of the impact of additional rate increases on certain customers, there can be no assurances that regulators will grant sufficient rate authorizations. Therefore, our ability to fully recover operating expense, recover our investment and provide an appropriate return on invested capital made in our Regulated Businesses may be adversely impacted.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA
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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of

American Water Works Company, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of comprehensive income, of cash flows, and of changes in stockholders' equity present fairly, in all material respects, the financial position of American Water Works Company, Inc. and Subsidiary Companies at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Philadelphia, Pennsylvania
February 21, 2017

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American Water Works Company, Inc. and Subsidiary Companies

Consolidated Balance Sheets

(In millions, except share and per share data)

	December 31, 2016	December 31, 2015
ASSETS		
Property, plant and equipment	\$ 19,954	\$ 18,504
Accumulated depreciation	(4,962)	(4,571)
Property, plant and equipment, net	14,992	13,933
Current assets:		
Cash and cash equivalents	75	45
Restricted funds	20	21
Accounts receivable, net	269	255
Unbilled revenues	263	267
Materials and supplies	39	38
Other	118	31
Total current assets	784	657
Regulatory and other long-term assets:		
Regulatory assets	1,289	1,271
Goodwill	1,345	1,302
Other	72	78
Total regulatory and other long-term assets	2,706	2,651
TOTAL ASSETS	\$ 18,482	\$ 17,241

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

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American Water Works Company, Inc. and Subsidiary Companies

Consolidated Balance Sheets

(In millions, except share and per share data)

	December 31, 2016	December 31, 2015
CAPITALIZATION AND LIABILITIES		
Capitalization:		
Common stock (\$0.01 par value, 500,000,000 shares authorized, 181,798,555 and 180,907,483 shares issued, respectively)	\$ 2	\$ 2
Paid-in-capital	6,388	6,351
Accumulated deficit	(873)	(1,073)
Accumulated other comprehensive loss	(86)	(88)
Treasury stock, at cost (3,701,867 and 2,625,112 shares respectively)	(213)	(143)
Total common stockholders' equity	5,218	5,049
Long-term debt	5,749	5,862
Redeemable preferred stock at redemption value	10	12
Total long-term debt	5,759	5,874
Total capitalization	10,977	10,923
Current liabilities:		
Short-term debt	849	628
Current portion of long-term debt	574	54
Accounts payable	154	126
Accrued liabilities	609	493
Taxes accrued	31	26
Interest accrued	63	62
Other	112	144
Total current liabilities	2,392	1,533
Regulatory and other long-term liabilities:		
Advances for construction	300	349
Deferred income taxes, net	2,596	2,310
Deferred investment tax credits	23	24
Regulatory liabilities	403	402
Accrued pension expense	419	342
Accrued postretirement benefit expense	87	169
Other	67	68
Total regulatory and other long-term liabilities	3,895	3,664
Contributions in aid of construction	1,218	1,121
Commitments and contingencies (See Note 15)	—	—
TOTAL CAPITALIZATION AND LIABILITIES	\$ 18,482	\$ 17,241

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

American Water Works Company, Inc. and Subsidiary Companies

Consolidated Statements of Operations

(In millions, except per share data)

	For the Years Ended December 31,		
	2016	2015	2014
Operating revenues	\$3,302	\$3,159	\$3,011
Operating expenses:			
Operation and maintenance	1,504	1,404	1,350
Depreciation and amortization	470	440	424
General taxes	258	243	236
Gain on asset dispositions and purchases	(10)	(3)	(2)
Total operating expenses, net	2,222	2,084	2,008
Operating income	1,080	1,075	1,003
Other income (expense):			
Interest, net	(325)	(308)	(299)
Other, net	15	15	6
Total other income (expense)	(310)	(293)	(293)
Income from continuing operations before income taxes	770	782	710
Provision for income taxes	302	306	280
Income from continuing operations	468	476	430
Loss from discontinued operations, net of tax	—	—	(7)
Net income attributable to common stockholders	\$468	\$476	\$423
Basic earnings per share: (a)			
Income from continuing operations	\$2.63	\$2.66	\$2.40
Loss from discontinued operations, net of tax	\$—	\$—	\$(0.04)
Net income attributable to common stockholders	\$2.63	\$2.66	\$2.36
Diluted earnings per share: (a)			
Income from continuing operations	\$2.62	\$2.64	\$2.39
Loss from discontinued operations, net of tax	\$—	\$—	\$(0.04)
Net income attributable to common stockholders	\$2.62	\$2.64	\$2.35
Weighted average common shares outstanding			
Basic	178	179	179
Diluted	179	180	180
Dividends declared per common share	\$1.50	\$1.36	\$1.24

(a) Amounts may not sum due to rounding.

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

American Water Works Company, Inc. and Subsidiary Companies

Consolidated Statements of Comprehensive Income

(In millions)

	For the Years Ended December 31,		
	2016	2015	2014
Net income attributable to common stockholders	\$ 468	\$ 476	\$ 423
Other comprehensive income (loss), net of tax:			
Change in employee benefit plan funded status, net of tax of \$(14),			
\$(6) and \$(29) in 2016, 2015 and 2014, respectively	(21)	(10)	(46)
Pension amortized to periodic benefit cost:			
Actuarial loss, net of tax of \$4 and \$3 in 2016 and 2015, respectively	6	5	—
Foreign currency translation adjustment	—	(1)	—
Unrealized gain (loss) on cash flow hedges, net of tax of \$10 and \$(1) in 2016 and			
2014, respectively	17	—	(1)
Net other comprehensive income (loss)	2	(6)	(47)
Comprehensive income attributable to common stockholders	\$ 470	\$ 470	\$ 376

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

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American Water Works Company, Inc. and Subsidiary Companies

Consolidated Statements of Cash Flows

(In millions)

	For the Years Ended		
	December 31,		
	2016	2015	2014
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income	\$468	\$476	\$423
Adjustments to reconcile to net cash flows provided by operating activities:			
Depreciation and amortization	470	440	424
Deferred income taxes and amortization of investment tax credits	282	296	254
Provision for losses on accounts receivable	27	32	37
Gain on asset dispositions and purchases	(10)	(3)	(2)
Pension and non-pension postretirement benefits	54	61	24
Other non-cash, net	(36)	(53)	(14)
Changes in assets and liabilities:			
Receivables and unbilled revenues	(31)	(84)	(62)
Pension and non-pension postretirement benefit contributions	(53)	(57)	(52)
Accounts payable and accrued liabilities	60	80	27
Other current assets and liabilities, net	(20)	(9)	38
Impact of binding global agreement in principle	65	—	—
Net cash provided by operating activities	1,276	1,179	1,097
CASH FLOWS FROM INVESTING ACTIVITIES			
Capital expenditures	(1,311)	(1,160)	(956)
Acquisitions, net of cash acquired	(204)	(197)	(9)
Proceeds from sale of assets and securities	9	5	14
Removal costs from property, plant and equipment retirements, net	(84)	(107)	(78)
Net funds (restricted) released	3	(6)	15
Net cash used in investing activities	(1,587)	(1,465)	(1,014)
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from long-term debt	553	565	501
Repayments of long-term debt	(144)	(130)	(240)
Proceeds from short-term borrowings with maturities greater than three months	—	60	35
Repayments of short-term borrowings with maturities greater than three months	—	(60)	(256)
Net short-term borrowings with maturities less than three months	221	180	41
Proceeds from issuances of employee stock plans and DRIP	26	39	21
Advances and contributions for construction, net of refunds of \$31, \$23 and \$21 in 2016,			
2015 and 2014, respectively	16	26	26
Debt issuance costs	(5)	(7)	(5)
Dividends paid	(261)	(239)	(216)
Anti-dilutive share repurchases	(65)	(126)	—
Tax benefit realized from equity compensation	—	—	6
Net cash provided by (used in) financing activities	341	308	(87)

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Net increase (decrease) in cash and cash equivalents	30	22	(4)
Cash and cash equivalents at beginning of period	45	23	27
Cash and cash equivalents at end of period	\$75	\$45	\$23
Cash paid during the year for:			
Interest, net of capitalized amount	\$327	\$309	\$301
Income taxes, net of refunds of \$0, \$1 and \$4 in 2016, 2015 and 2014, respectively	\$16	\$12	\$16
Non-cash investing activity:			
Capital expenditures acquired on account but unpaid as of year end	\$171	\$224	\$186

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

American Water Works Company, Inc. and Subsidiary Companies

Consolidated Statements of Changes in Stockholders' Equity

(In millions)

	Common Stock Shares	Par Value	Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Treasury Stock At Shares	Cost	Total Stockholders' Equity
Balance as of December 31, 2013	178.4	\$ 2	\$6,262	\$ (1,496)	\$ (35)	(0.1)	\$(5)	\$ 4,728
Net income	—	—	—	423	—	—	—	423
Direct stock reinvestment								
and purchase plan	0.1	—	2	—	—	—	—	2
Employee stock purchase plan	0.1	—	5	—	—	—	—	5
Stock-based compensation activity	0.9	—	33	(1)	—	(0.1)	(6)	26
Net other comprehensive								
income (loss)	—	—	—	—	(47)	—	—	(47)
Dividends	—	—	—	(222)	—	—	—	(222)
Balance as of December 31, 2014	179.5	\$ 2	\$6,302	\$ (1,296)	\$ (82)	(0.2)	\$(11)	\$ 4,915
Cumulative effect of change in								
accounting principle	—	—	—	(8)	—	—	—	(8)
Net income attributable to								
common stockholders	—	—	—	476	—	—	—	476
Direct stock reinvestment								
and purchase plan	0.1	—	4	—	—	—	—	4
Employee stock purchase plan	0.1	—	5	—	—	—	—	5
Stock-based compensation activity	1.2	—	40	(1)	—	(0.1)	(6)	33
Repurchases of common stock	—	—	—	—	—	(2.3)	(126)	(126)
Net other comprehensive								
income (loss)	—	—	—	—	(6)	—	—	(6)
Dividends	—	—	—	(244)	—	—	—	(244)
Balance as of December 31, 2015	180.9	\$ 2	\$6,351	\$ (1,073)	\$ (88)	(2.6)	\$(143)	\$ 5,049
Net income attributable to								
common stockholders	—	—	—	468	—	—	—	468

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Direct stock reinvestment										
and purchase plan	0.1	—	5	—	—	—	—	—	5	
Employee stock purchase plan	0.1	—	7	—	—	—	—	—	7	
Stock-based compensation										
activity	0.7	—	25	(1)	—	(0.1)	(5)	19
Repurchases of common stock	—	—	—	—	—	—	(1.0)	(65)	(65
Net other comprehensive										
income (loss)	—	—	—	—	2	—	—	—	2	
Dividends	—	—	—	(267)	—	—	—	(267)
Balance as of December 31, 2016	181.8	\$ 2	\$6,388	\$ (873)	\$ (86)	(3.7)	\$(213)	\$ 5,218

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

American Water Works Company, Inc. and Subsidiary Companies

Notes to Consolidated Financial Statements

(Unless otherwise noted, in millions, except per share data)

Note 1: Organization and Operation

American Water Works Company, Inc. (the “Company” or “American Water”) is the holding company for regulated and market-based subsidiaries throughout the United States and Ontario, Canada. The Regulated Businesses provide water and wastewater services as public utilities in 16 states in the United States. The Market-Based Businesses is comprised of four non-reportable operating segments including Military Services Group, which conducts operation and maintenance (“O&M”) of water and wastewater systems for military bases; Contract Operations Group, which conducts O&M of water and wastewater facilities for municipalities and the food and beverage industry; Homeowner Services Group, which primarily provides water and sewer line protection plans for homeowners; and Keystone, which provides water services for natural gas exploration and production companies.

Note 2: Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of American Water and all of its subsidiaries in which a controlling interest is maintained after the elimination of intercompany accounts and transactions. Intercompany balances and transactions between subsidiaries have been eliminated. The Company uses the equity method to report its investments in joint ventures in which the Company holds up to a 50% voting interest and cannot exercise control over the operations and policies of the investments. Under the equity method, the Company records its interests as an investment and its percentage share of the investee’s earnings as earnings or losses.

In July 2015, the Company acquired a ninety-five percent interest in Water Solutions Holdings, LLC, including its wholly-owned subsidiary, Keystone Clearwater Solutions, LLC (collectively referred to as “Keystone”). The outside stockholders’ interest, which is redeemable at the option of the minority owners, is recognized as redeemable noncontrolling interest. The redeemable noncontrolling interest amounted to \$7 as of December 31, 2016 and 2015, and is included in other long-term liabilities in the accompanying Consolidated Balance Sheets. The net loss attributable to the noncontrolling interest was not significant. The Company has entered into an agreement, whereby it has the option to acquire from the minority owners, and the minority owners have the option to sell to the Company, the remaining five percent interest at fair value upon the occurrence of certain triggering events or at the defined date of December 31, 2018.

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, and

the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates. The Company considers its critical accounting estimates to include: the application of regulatory accounting principles and the related determination and estimates of regulatory assets and liabilities; estimates used in impairment testing of goodwill and other long-lived assets, including regulatory assets; revenue recognition; accounting for income taxes; benefit plan assumptions; and contingent liabilities. The Company's critical accounting estimates that are particularly sensitive to change in the near term are amounts reported for regulatory assets and liabilities, benefit plans assumptions, contingency-related obligations and goodwill.

Regulation

The Company's regulated utilities are subject to economic regulation by the public utility commissions and the local governments of the states in which they operate (the "PUCs"). These PUCs generally authorize revenue at levels intended to recover the estimated costs of providing service, plus a return on net investments, or rate base. Regulators may also impose certain penalties or grant certain incentives. Due to timing and other differences in the collection of utility revenue, an incurred cost that would otherwise be charged to expense by a non-regulated entity is to be deferred as a regulatory asset if it is probable that the cost is recoverable in future rates. Conversely, GAAP requires recording of a regulatory liability for amounts collected in rates to recover costs expected to be incurred in the future or amounts collected in excess of costs incurred and refundable to customers. See Note 6—Regulatory Assets and Liabilities.

Property, Plant and Equipment

Property, plant and equipment consist primarily of utility plant. Additions to utility plant and replacements of retirement units of property are capitalized. Costs include material, direct labor and such indirect items as engineering and supervision, payroll taxes and benefits, transportation and an allowance for funds used during construction (“AFUDC”). The cost of repairs, maintenance, including planned major maintenance activities, and minor replacements is charged to maintenance expense as incurred.

The costs incurred to acquire and internally develop computer software for internal use are capitalized as a unit of property. The carrying value of these costs amounted to \$345 and \$311 as of December 31, 2016 and 2015, respectively.

When units of property are replaced, retired or abandoned, the recorded value is credited to the asset account and charged to accumulated depreciation. To the extent the Company recovers cost of removal or other retirement costs through rates after the retirement costs are incurred, a regulatory asset is recorded. In some cases, the Company recovers retirement costs through rates during the life of the associated asset and before the costs are incurred. These amounts result in a regulatory liability being reported based on the amounts previously recovered through customer rates, until the costs to retire those assets are incurred.

The cost of property, plant and equipment is depreciated using the straight-line average remaining life method. The Company’s regulated utility subsidiaries record depreciation in conformity with amounts approved by state regulators after regulatory review of information the Company submits to support its estimates of the assets’ remaining useful lives.

Nonutility property consists primarily of buildings and equipment utilized by the Company for internal operations. This property is stated at cost, net of accumulated depreciation calculated using the straight-line method over the useful lives of the assets.

Cash and Cash Equivalents

Substantially all cash is invested in interest-bearing accounts. All highly liquid investments with a maturity of three months or less when purchased are considered to be cash equivalents.

Restricted Funds

Restricted funds primarily represent proceeds from financings for the construction and capital improvement of facilities and deposits for future services under O&M projects. The proceeds from these financings are held in escrow until the designated expenditures are incurred. Classification of restricted funds in the Consolidated Balance Sheets as either current or long-term is based upon the intended use of the funds.

Accounts Receivable and Unbilled Revenues

Accounts receivable include regulated utility customer accounts receivable, which represent amounts billed to water and wastewater customers on a cycle basis. Credit is extended based on the guidelines of the applicable PUCs and collateral is generally not required. Also included are market-based trade accounts receivable and nonutility customer receivables of the regulated subsidiaries. Unbilled revenues are accrued when service has been provided but has not been billed to customers.

Allowance for Uncollectible Accounts

Allowances for uncollectible accounts are maintained for estimated probable losses resulting from the Company's inability to collect receivables from customers. Accounts that are outstanding longer than the payment terms are considered past due. A number of factors are considered in determining the allowance for uncollectible accounts, including the length of time receivables are past due and previous loss history. The Company generally writes off accounts when they become uncollectible or are over a certain number of days outstanding. See Note 5—Allowance for Uncollectible Accounts.

Materials and Supplies

Materials and supplies are stated at the lower of cost or net realizable value. Cost is determined using the average cost method.

Goodwill

Goodwill represents the excess of the purchase price paid over the estimated fair value of the assets acquired and liabilities assumed in the acquisition of a business. Goodwill is not amortized, but is tested for impairment at least annually or on an interim basis if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value. Goodwill is primarily associated with the acquisitions of E'town Corporation in 2001, American Water in 2003 and Keystone in 2015 (the "Acquisitions") and has been assigned to reporting units based on the fair values at the date of the Acquisitions. The reporting units in the Regulated Businesses segment are aggregated into a single reporting unit. The Market-Based Businesses is comprised of four non-reportable reporting units. The Company's annual impairment test is performed as of November 30 of each year, in conjunction with the completion of the Company's annual business plan. The Company assesses qualitative factors to determine whether it is necessary to perform the two-step quantitative goodwill impairment test. If based on qualitative factors, the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If the Company bypasses the qualitative assessment or performs the qualitative assessment, but determines that it is more likely than not that its fair value is less than its carrying amount, a quantitative two-step, fair value-based test is performed.

The first step compares the estimated fair value of the reporting unit to its respective net carrying value, including goodwill, on the measurement date. If the estimated fair value of any reporting unit is less than such reporting unit's carrying value, then the second step is performed to measure the amount of the impairment loss (if any) for such reporting unit.

The second step requires an allocation of fair value to the individual assets and liabilities using purchase price allocation accounting guidance in order to determine the implied fair value of goodwill. If the implied fair value of goodwill is less than the carrying amount for the reporting unit, an impairment loss is recorded as a reduction to goodwill and a charge to operating expense. Application of the goodwill impairment test requires management judgment, including the identification of reporting units and determining the fair value of the reporting unit. Management estimates fair value using a combination of a discounted cash flow analysis and market multiples analysis. Significant assumptions used in these fair value analyses include discount and growth rates and projected terminal values.

The Company believes the assumptions and other considerations used to value goodwill to be appropriate. However, if experience differs from the assumptions and considerations used in its analysis, the resulting change could have a material adverse impact on the consolidated financial statements.

Long-Lived Assets

Long-lived assets include land, buildings, equipment and long-term investments. Long-lived assets, other than investments and land, are depreciated over their estimated useful lives, and are reviewed for impairment whenever changes in circumstances indicate the carrying value of the asset may not be recoverable. Such circumstances would include items such as a significant decrease in the market value of a long-lived asset, a significant adverse change in the manner the asset is being used or planned to be used or in its physical condition, or a history of operating or cash flow losses associated with the use of the asset. In addition, changes in the expected useful life of these long-lived assets may also be an impairment indicator. When such events or changes occur, the Company estimates the fair value of the asset from future cash flows expected to result from the use and, if applicable, the eventual disposition of the asset and compares that to the carrying value of the asset. If the carrying value is greater than the fair value, an impairment loss is recorded.

The Company believes the assumptions and other considerations used to evaluate the carrying value of long-lived assets are appropriate. However, if actual experience differs from the assumptions and considerations used in its estimates, the resulting change could have a material adverse impact on the consolidated financial statements.

The key variables to determine fair value include assumptions regarding sales volume, rates, operating costs, labor and other benefit costs, capital additions, assumed discount rates and other economic factors. These variables require significant management judgment and include inherent uncertainties, since they are forecasting future events. If such assets are considered impaired, an impairment loss is recognized equal to the amount by which the asset's carrying value exceeds its fair value.

The long-lived assets of the regulated utility subsidiaries are tested on a separate entity basis for impairment testing as they are integrated state-wide operations that do not have the option to curtail service and generally have uniform tariffs. A regulatory asset is charged to earnings if and when future recovery in rates of that asset is no longer probable.

The Company holds other investments including investments in privately held companies and investments in joint ventures accounted for using the equity method. The Company's investments in privately held companies and joint ventures are classified as other long-term assets in the accompanying Consolidated Balance Sheets.

The fair values of long-term investments are dependent on the financial performance and solvency of the entities in which the Company invests, as well as volatility inherent in the external markets. If such assets are considered impaired, an impairment loss is recognized equal to the amount by which the asset's carrying value exceeds its fair value.

Advances for Construction and Contributions in Aid of Construction

Regulated utility subsidiaries may receive advances for construction and contributions in aid of construction from customers, home builders and real estate developers to fund construction necessary to extend service to new areas.

Advances are refundable for limited periods of time as new customers begin to receive service or other contractual obligations are fulfilled. Included in other current liabilities as of December 31, 2016 and 2015 in the accompanying Consolidated Balance Sheets are estimated refunds of \$21 and \$19, respectively. Those amounts represent expected refunds during the next 12-month period.

Advances that are no longer refundable are reclassified to contributions. Contributions are permanent collections of plant assets or cash for a particular construction project. For ratemaking purposes, the amount of such contributions generally serves as a rate base reduction since the contributions represent non-investor supplied funds.

Generally, the Company depreciates utility plant funded by contributions and amortizes its contributions balance as a reduction to depreciation expense, producing a result which is functionally equivalent to reducing the original cost of the utility plant for the contributions. In accordance with applicable regulatory guidelines, some of the Company's utility subsidiaries do not amortize contributions, and any contribution received remains on the balance sheet indefinitely. Amortization of contributions in aid of construction was \$27, \$26 and \$24 for the years ended December 31, 2016, 2015 and 2014, respectively.

Recognition of Revenues

Revenues of the regulated utility subsidiaries are recognized as water and wastewater services are provided, and include amounts billed to customers on a cycle basis and unbilled amounts based on estimated usage from the date of the meter reading associated with the latest customer bill to the end of the accounting period. The Company also recognizes revenue when it is probable that future recovery of previously incurred costs or future refunds that are to be credited to customers will occur through the ratemaking process.

The Company has agreements with the U.S. Department of Defense to operate and maintain water and wastewater systems at various military bases pursuant to 50-year contracts ("military agreements"). These contracts also include construction components that are accounted for separately from the O&M components. Nine of the military agreements are subject to periodic price redetermination adjustments and modifications for changes in circumstance. The remaining three agreements are subject to annual price adjustments under a mechanism similar to price redeterminations. Additionally, the Company has agreements ranging in length from two to 40 years with municipalities and businesses in various industries to operate and maintain water and wastewater systems ("O&M agreements"). Revenues from operations and management services are recognized as services are provided. See Note 15—Commitments and Contingencies.

Revenues from construction projects are recognized over the contract term based on the costs incurred to date during the period compared to the total estimated costs over the entire contract. Losses on contracts are recognized during the period in which the loss first becomes probable and estimable. Revenues recognized during the period in excess of billings on construction contracts are recorded as unbilled revenue. Billings in excess of revenues recognized on construction contracts are recorded as other current liabilities until the recognition criteria are met. Changes in

contract performance and related estimated contract profitability may result in revisions to costs and revenues and are recognized in the period in which revisions are determined.

Income Taxes

American Water and its subsidiaries participate in a consolidated federal income tax return for U.S. tax purposes. Members of the consolidated group are charged with the amount of federal income tax expense determined as if they filed separate returns.

Certain income and expense items are accounted for in different time periods for financial reporting than for income tax reporting purposes. The Company provides deferred income taxes on the difference between the tax basis of assets and liabilities and the amounts at which they are carried in the financial statements. These deferred income taxes are based on the enacted tax rates expected to be in effect when these temporary differences are projected to reverse. In addition, the regulated utility subsidiaries recognize regulatory assets and liabilities for the effect on revenues expected to be realized as the tax effects of temporary differences, previously flowed through to customers, reverse.

Investment tax credits have been deferred by the regulated utility subsidiaries and are being amortized to income over the average estimated service lives of the related assets.

The Company recognizes accrued interest and penalties related to tax positions as a component of income tax expense and accounts for sales tax collected from customers and remitted to taxing authorities on a net basis.

Allowance for Funds Used During Construction

AFUDC is a non-cash credit to income with a corresponding charge to utility plant that represents the cost of borrowed funds or a return on equity funds devoted to plant under construction. The regulated utility subsidiaries record AFUDC to the extent permitted by the PUCs. The portion of AFUDC attributable to borrowed funds is shown as a reduction of interest, net in the accompanying Consolidated Statements of Operations. Any portion of AFUDC attributable to equity funds would be included in other income (expenses) in the accompanying Consolidated Statements of Operations. AFUDC is summarized in the following table for the years ended December 31:

	2016	2015	2014
Allowance for other funds used during construction	\$ 15	\$ 13	\$ 9
Allowance for borrowed funds used during construction	6	8	6

Environmental Costs

The Company's water and wastewater operations are subject to U.S. federal, state, local and foreign requirements relating to environmental protection, and as such, the Company periodically becomes subject to environmental claims in the normal course of business. Environmental expenditures that relate to current operations or provide a future benefit are expensed or capitalized as appropriate. Remediation costs that relate to an existing condition caused by past operations are accrued, on an undiscounted basis, when it is probable that these costs will be incurred and can be reasonably estimated. The Company agreed to pay \$1 annually commencing in 2010 with the final payment being made in 2016. Remediation costs accrued amounted to \$0 and \$1 as of December 31, 2016 and 2015, respectively. The accrual relates entirely to a conservation agreement entered into by a subsidiary of the Company with the National Oceanic and Atmospheric Administration ("NOAA") requiring the Company to, among other provisions, implement certain measures to protect the steelhead trout and its habitat in the Carmel River watershed in the State of California.

Derivative Financial Instruments

The Company uses derivative financial instruments for purposes of hedging exposures to fluctuations in interest rates. These derivative contracts are entered into for periods consistent with the related underlying exposures and do not constitute positions independent of those exposures. The Company does not enter into derivative contracts for speculative purposes and does not use leveraged instruments.

All derivatives are recognized on the balance sheet at fair value. On the date the derivative contract is entered into, the Company may designate the derivative as a hedge of the fair value of a recognized asset or liability (fair-value hedge) or a hedge of a forecasted transaction or of the variability of cash flows to be received or paid related to a recognized asset or liability (cash-flow hedge).

Changes in the fair value of a fair-value hedge, along with the gain or loss on the underlying hedged item, are recorded in current-period earnings. The gains and losses on the effective portion of cash-flow hedges are recorded in other comprehensive income, until earnings are affected by the variability of cash flows. Any ineffective portion of designated cash-flow hedges is recognized in current-period earnings.

Cash flows from derivative contracts are included in net cash provided by operating activities in the accompanying Consolidated Statements of Cash Flows.

New Accounting Standards

The following recently issued accounting standards have been adopted by the Company as of December 31, 2016:

Standard	Description	Effect on the Consolidated		
		Date of Adoption	Application	Financial Statements (or Other Significant Matters)
Accounting for Fees Paid in a Cloud Computing Arrangement	Clarified accounting guidance for fees paid in a cloud computing arrangement. Software license elements in a cloud computing arrangement should be accounted for consistent with other software licenses. A cloud computing arrangement without a software license is accounted for as a service contract.	January 1, 2016	Prospective basis	Adoption of this standard did not impact the Company's results of operations, financial position or cash flows.

The following recently issued accounting standards have not yet been adopted by the Company as of December 31, 2016:

		Date of		Effect on the Consolidated
Standard	Description	Adoption	Application	Financial Statements
				(or Other Significant Matters)
Simplification of Employee Share-Based Payment Accounting	Simplified accounting and disclosure requirements for share-based payment awards. The updated guidance addresses: (i) the recognition of excess tax benefits and deficiencies; (ii) the classification of excess tax benefits and taxes paid on the Consolidated Statements of Cash Flows; (iii) election of an accounting policy for forfeitures; and (iv) the amount an employer can withhold to cover income taxes and still qualify for equity classification. The new guidance requires all tax related cash flows resulting from share-based payments to be reported as cash provided by operating activities in the Consolidated Statements of Cash Flows.	January 1, 2017	Alternative transition methods available	The cumulative effect to retained earnings prior to 2017 will be an increase of approximately \$21, with an offsetting decrease to deferred income taxes, net.
Revenue from Contracts with Customers	Updated authoritative guidance that changes the criteria for recognizing revenue from a contract with a customer. The new standard replaces existing guidance on revenue recognition, including most industry specific guidance. The objective of the updated standard is to provide a single, comprehensive revenue recognition model for all contracts with customers to improve comparability within industries, across industries and across capital markets. The	January 1, 2018; early adoption permitted	Retrospectively to each prior reporting period presented (full retrospective method) or retrospectively with a cumulative effect adjustment to retained earnings for initial application of the guidance (modified retrospective method)	The Company is evaluating the impact on the consolidated financial statements and related disclosures, as well as the transition method to be used to adopt the guidance. The Company is also considering the impacts of the new standard on its accounting for contributions in aid of construction. The Company does not expect to early adopt.

underlying principle is that an entity will recognize revenue to depict the transfer of goods and services to customers at an amount the entity expects to be entitled to in exchange for those goods or services. The guidance also requires a number of disclosures regarding the nature, amount, timing and uncertainty of revenue and the related cash flows.

<p>Classification of Certain Cash Receipts and Cash Payments on the Statement of Cash Flows</p>	<p>Provided guidance on the presentation and classification in the statement of cash flows for the following cash receipts and payments: (i) debt prepayment or debt extinguishment costs; (ii) settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; (iii) contingent consideration payments made after a business combination; (iv) proceeds from the settlement of insurance claims; (v) proceeds from the settlement of corporate-owned life insurance policies, including bank-owned life insurance policies; (vi) distributions received from equity method investees; (vii) beneficial interests in securitization transactions; and (viii) separately identifiable cash flows and application of the predominance principle.</p>	<p>January 1, 2018; early adoption permitted</p>	<p>Retrospective</p>	<p>The Company does not anticipate significant impacts on its Statements of Cash Flows based on this standard update.</p>
<p>Presentation of Changes in Restricted Cash on the Statement of Cash Flows</p>	<p>Updated the accounting and disclosure guidance for the classification and presentation of changes in restricted cash on the statement of cash flows. The amended guidance requires that a statement of cash flows explain the change during the period in the total of cash, cash</p>	<p>January 1, 2018; early adoption permitted</p>	<p>Retrospective</p>	<p>The Company does not anticipate significant impacts on its Statements of Cash Flows based on this standard update.</p>

equivalents and amounts described as restricted cash or restricted cash equivalents. Restricted cash and restricted cash equivalents will now be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows

Clarifying the Definition of a Business	Updated the accounting guidance to clarify the definition of a business with the objective of assisting entities with evaluating whether transactions should be accounted for as acquisitions, or disposals, of assets or businesses.	January 1, 2018; early adoption permitted	Prospective	The Company is evaluating the impact on the consolidated financial statements and related disclosures.
Accounting for Leases	Updated the accounting and disclosure guidance for leasing arrangements. Under this guidance, a lessee will be required to recognize the following for all leases, excluding short-term leases, at the commencement date: (i) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (ii) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Under the guidance, lessor accounting is largely unchanged.	January 1, 2019; early adoption permitted	Modified retrospective	The Company is evaluating the impact on the consolidated financial statements and related disclosures, as well as the timing of adoption.
Simplification of Goodwill Impairment Testing	Updated authoritative guidance which simplifies the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. Under the amendments in the update, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An impairment charge	January 1, 2020; early adoption permitted for interim or annual goodwill impairment tests performed after January 1, 2017	Prospective	The Company is evaluating the impact on the consolidated financial statements and related disclosures, as well as the timing of adoption.

should be recognized for the amount by which the carrying value exceeds the reporting unit's fair value, however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary.

Measurement of Credit Losses	Updated the accounting guidance on reporting credit losses for financial assets held at amortized cost basis and available-for-sale debt securities. Under this guidance, expected credit losses are required to be measured based on historical experience, current conditions and reasonable and supportable forecasts that affect the collectability of the reported amount of financial assets. Also, this guidance requires that credit losses on available-for-sale debt securities be presented as an allowance rather than as a direct write-down.	January 1, 2020; early adoption permitted	Modified retrospective	The Company is evaluating the impact on the consolidated financial statements and related disclosures, as well as the timing of adoption.
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Reclassifications

Certain reclassifications have been made to prior periods in the accompanying consolidated financial statements and notes to conform to the current presentation.

Note 3: Acquisitions and Divestitures

Acquisitions

During 2016, the Company closed on fifteen acquisitions, including the Scranton acquisition in December, of various regulated water and wastewater systems for a total aggregate purchase price of \$199. Assets acquired, principally utility plant, totaled \$194. Liabilities assumed totaled \$30, including \$14 of contributions in aid of construction, and assumed debt of \$6. The Company recorded additional goodwill of \$43 associated with five of its acquisitions, which is reported in its Regulated Businesses segment and is expected to be fully deductible for tax purposes. The preliminary purchase price allocation related to the Scranton acquisition will be finalized once the valuation of net assets acquired has been completed.

Also, our Regulated Businesses made a non-escrowed deposit of \$5 related to the acquisition of the McKeesport, Pennsylvania's wastewater system which we expect to close in the second half of 2017.

During 2015, the Company closed on fourteen acquisitions of various regulated water and wastewater systems for a total aggregate purchase price of \$64. Assets acquired, principally utility plant, totaled \$90. Liabilities assumed totaled \$26, including \$10 of contributions in aid of construction, and assumed debt of \$1. The Company recorded additional goodwill of \$3 associated with four of its acquisitions, which is reported in its Regulated Businesses segment and is expected to be fully deductible for tax purposes. The Company also recognized a bargain purchase gain of \$3 associated with five of its acquisitions, of which \$1 was deferred as a regulatory liability.

During 2015, the Company also closed on the Keystone acquisition, which is included as part of the Market-Based Businesses, for a total purchase price of \$133, net of cash received. The fair value of identifiable assets acquired and liabilities assumed was \$56 and \$7, respectively, and principally included the acquisition of nonutility property of \$25, accounts receivable and unbilled revenues of \$18 and intangible assets of \$12. The purchase price allocation, which is based on the estimated fair value of net assets acquired, resulted in the Company recording redeemable noncontrolling interest of \$7 and additional goodwill of \$91. Goodwill is expected to be fully deductible for tax purposes.

The pro forma impact of our acquisitions was not material to our consolidated results of operations for the years ended December 31, 2016 and 2015.

During 2014, the Company closed on thirteen acquisitions of various regulated water and wastewater systems for a total aggregate purchase price of \$9. Assets acquired, principally plant, totaled \$17. Liabilities assumed totaled \$8, including \$5 of contributions in aid of construction and assumed debt of \$2.

Divestitures

In November 2014, the Company completed the sale of Terratec, previously included in the Market-Based Businesses. After post-close adjustments, net proceeds from the sale totaled \$1, and the Company recorded a pretax loss on sale of

\$1.

The following table summarizes the operating results of discontinued operations presented in the accompanying Consolidated Statements of Operations for the year ended December 31, 2014:

Operating revenues	\$13
Total operating expenses, net	19
Loss from discontinued operations before income taxes	(6)
Provision (benefit) for income taxes	1
Loss from discontinued operations, net of tax	\$(7)

The provision for income taxes of discontinued operations includes the recognition of tax expense related to the difference between the tax basis and book basis of assets upon the sales of Terratec that resulted in taxable gains, since an election was made under Section 338(h)(10) of the Internal Revenue Code to treat the sales as asset sales.

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There were no assets or liabilities of discontinued operations in the accompanying Consolidated Balance Sheets as of December 31, 2016 and 2015.

Note 4: Property, Plant and Equipment

The following table summarizes the major classes of property, plant and equipment by category as of December 31:

	2016	2015	Range of Remaining Useful Lives	Weighted Average Useful Life
Utility plant:				
Land and other non-depreciable assets	\$ 147	\$ 141		
Sources of supply	734	705	2 to 127 Years	52 Years
Treatment and pumping facilities	3,218	3,070	3 to 101 Years	40 Years
Transmission and distribution facilities	9,043	8,516	9 to 156 Years	80 Years
Services, meters and fire hydrants	3,504	3,250	8 to 93 Years	37 Years
General structures and equipment	1,343	1,227	1 to 154 Years	43 Years
Waste treatment, pumping and disposal	457	313	2 to 115 Years	55 Years
Waste collection	637	473	5 to 109 Years	58 Years
Construction work in progress	419	404		
Total utility plant	19,502	18,099		
Nonutility property	452	405	3 to 50 years	6 Years
Total property, plant and equipment	\$ 19,954	\$ 18,504		

Property, plant and equipment depreciation expense amounted to \$435, \$405, and \$392 for the years ended December 31, 2016, 2015 and 2014, respectively and was included in depreciation and amortization expense in the accompanying Consolidated Statements of Operations. The provision for depreciation expressed as a percentage of the aggregate average depreciable asset balances was 3.14%, 3.13% and 3.20% for years December 31, 2016, 2015 and 2014, respectively.

Note 5: Allowance for Uncollectible Accounts

The following table summarizes the changes in the Company's allowances for uncollectible accounts for the years ended December 31:

	2016	2015	2014
Balance as of January 1	\$(39)	\$(35)	\$(34)

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Amounts charged to expense	(27)	(32)	(37)
Amounts written off	29	31	38
Recoveries of amounts written off	(3)	(3)	(2)
Balance as of December 31	\$(40)	\$(39)	\$(35)

Note 6: Regulatory Assets and Liabilities

Regulatory Assets

Regulatory assets represent costs that are probable of recovery from customers in future rates. The majority of the regulatory assets earn a return. The following table summarizes the composition of regulatory assets as of December 31:

	2016	2015
Deferred pension expense	\$310	\$269
Income taxes recoverable through rates	241	236
Removal costs recoverable through rates	251	225
Deferred other postretirement benefit expense	14	90
San Clemente Dam project costs	91	95
Regulatory balancing accounts	110	88
Debt expense	66	68
Purchase premium recoverable through rates	58	60
Deferred tank painting costs	39	37
Other	109	103
Total Regulatory Assets	\$1,289	\$1,271

The Company's deferred pension expense includes a portion of the underfunded status that is probable of recovery through rates in future periods of \$300 and \$258 as of December 31, 2016 and 2015, respectively. The remaining portion is the pension expense in excess of the amount contributed to the pension plans which is deferred by certain subsidiaries and will be recovered in future service rates as contributions are made to the pension plan.

The Company has recorded a regulatory asset for the additional revenues expected to be realized when the tax effects of temporary differences previously flowed through to customers, reverse. These temporary differences are primarily related to the difference between book and tax depreciation on property placed in service before the adoption by the regulatory authorities of full normalization for rate making purposes. Full normalization requires no flow through of tax benefits to customers. The regulatory asset for income taxes recoverable through rates is net of the reduction expected in future revenues as deferred taxes previously provided, attributable to the difference between the state and federal income tax rates under prior law and the current statutory rates, reverse over the average remaining service lives of the related assets.

Removal costs recoverable through rates represent costs incurred for removal of property, plant and equipment or other retirement costs.

The Company's deferred other postretirement benefit expense includes a portion of the underfunded status that is probable of recovery through rates in future periods of \$12 and \$87 as of December 31, 2016 and 2015, respectively. The remaining portion is postretirement benefit expense in excess of the amount recovered in rates through 1997 has been deferred by certain subsidiaries. These costs are recognized in the rates charged for water service and will be recovered as authorized by the Company's regulatory authorities. The decrease in deferred other postretirement benefit expense is a result of the plan amendment to the postretirement benefit plan announced on July 31, 2016. See Note 14—Employee Benefits.

San Clemente Dam project costs represent costs incurred and deferred by the Company's California subsidiary pursuant to its efforts to investigate alternatives to strengthen or remove the dam due to potential earthquake and flood safety concerns. In June 2012, the California Public Utilities Commission ("CPUC") issued a decision authorizing implementation of a project to reroute the Carmel River and remove the San Clemente Dam. The project includes the Company's California subsidiary, the California State Conservancy and the National Marine Fisheries Services. Under the order's terms, the CPUC has authorized recovery for pre-construction costs, interim dam safety measures and environmental costs and construction costs. The authorized costs are to be recovered via a surcharge over a twenty-year period which began in October 2012. The unrecovered balance of project costs incurred, including cost of capital, net of surcharges totaled \$91 and \$95 as of December 31, 2016 and 2015, respectively. Surcharges collected were \$4 for December 31, 2016 and 2015.

Regulatory balancing accounts accumulate differences between revenues recognized and authorized revenue requirements until they are collected from customers or are refunded. Regulatory balancing accounts include low income programs and purchased power and water accounts.

Debt expense is amortized over the lives of the respective issues. Call premiums on the redemption of long-term debt, as well as unamortized debt expense, are deferred and amortized to the extent they will be recovered through future service rates.

Purchase premium recoverable through rates is primarily the recovery of the acquisition premiums related to an asset acquisition by the Company's California Utility subsidiary during 2002, and acquisitions in 2007 by the Company's New Jersey Utility subsidiary. As authorized for recovery by the California and New Jersey PUCs, these costs are being amortized to depreciation and amortization in the Consolidated Statements of Operations through November 2048.

Tank painting costs are generally deferred and amortized to operations and maintenance expense in the Consolidated Statements of Operations on a straight-line basis over periods ranging from five to fifteen years, as authorized by the regulatory authorities in their determination of rates charged for service.

Other regulatory assets include certain construction costs for treatment facilities, property tax stabilization, employee-related costs, business services project expenses, coastal water project costs, rate case expenditures and environmental remediation costs among others. These costs are deferred because the amounts are being recovered in rates or are probable of recovery through rates in future periods.

Regulatory Liabilities

Regulatory liabilities generally represent amounts that are probable of being credited or refunded to customers through the rate-making process. Also, if costs expected to be incurred in the future are currently being recovered through rates, the Company records those expected future costs as regulatory liabilities. The following table summarizes the composition of regulatory liabilities as of December 31:

	2016	2015
Removal costs recovered through rates	\$316	\$311
Pension and other postretirement benefit balancing accounts	55	59
Other	32	32
Total Regulatory Liabilities	\$403	\$402

Removal costs recovered through rates are estimated costs to retire assets at the end of their expected useful life that are recovered through customer rates over the life of the associated assets. In December 2008, the Company's utility subsidiary in New Jersey, at the direction of the New Jersey Board of Public Utilities, began to depreciate \$48 of the total balance into depreciation and amortization expense in the Consolidated Statements of Operations via straight line amortization through November 2048.

Pension and other postretirement benefit balancing accounts represent the difference between costs incurred and costs authorized by the PUCs that are expected to be refunded to customers.

Other regulatory liabilities include legal settlement proceeds, deferred gains and various regulatory balancing accounts.

Note 7: Goodwill and Other Intangible Assets

Goodwill

The following table summarizes changes in the carrying amount of goodwill for the years ended December 31, 2016 and 2015:

	Regulated Businesses		Market-Based Businesses		Consolidated		Total Net
	Cost	Accumulated Impairment	Cost	Accumulated Impairment	Cost	Accumulated Impairment	
Balance as of January 1, 2015	\$3,412	\$ (2,332)	\$236	\$ (108)	\$3,648	\$ (2,440)	\$1,208
Goodwill from acquisitions	3	—	91	—	94	—	94
Balance as of December 31, 2015	\$3,415	\$ (2,332)	\$327	\$ (108)	\$3,742	\$ (2,440)	\$1,302
Goodwill from acquisitions	43	—	—	—	43	—	43
Balance as of December 31, 2016	\$3,458	\$ (2,332)	\$327	\$ (108)	\$3,785	\$ (2,440)	\$1,345

In 2016, the Company acquired aggregate goodwill of \$43 associated with six of its acquisitions in the Regulated Businesses segment.

In 2015, the Company recorded goodwill of \$91 as part of the Keystone acquisition. The Keystone business is an operating segment comprised of one reporting unit to which all of the goodwill arising from the acquisition was assigned and which is included in the Market-Based Business information. The Company also acquired aggregate goodwill of \$3 associated with four of its acquisitions in its Regulated Businesses segment.

Excluding goodwill acquired in 2015 related to the Keystone acquisition, the Company determined that no qualitative factors were present that would indicate the estimated fair values of its reporting units were less than the respective carrying values. As such, the Company determined that further quantitative testing was not necessary at November 30, 2016 or 2015.

A step one test was completed for the Keystone goodwill. We used an income approach valuation technique which estimates the discounted future cash flows of operations. The discounted cash flow analysis relies on a single scenario reflecting best estimate projected cash flows. Significant assumptions were used in estimating the fair value, including the discount rate, growth rate and terminal value. The estimated fair value of the Keystone reporting unit exceeded its carrying value, and as such the Company determined the goodwill is not impaired.

There can be no assurances that the Company will not be required to recognize an impairment of goodwill in the future due to market conditions or other factors related to the performance of the Company's reporting units. These market events could include a decline over a period of time of the Company's stock price, a decline over a period of time in valuation multiples of comparable water utilities and reporting unit companies, the lack of an increase in the Company's market price consistent with its peer companies, decreases in control premiums or continued downward pressure on commodity prices. A decline in the forecasted results in our business plan, such as changes in rate case results or capital investment budgets or changes in our interest rates, could also result in an impairment charge. In regards to the Keystone goodwill, adverse developments in market conditions, including prolonged depression of natural gas prices or other factors that negatively impact our forecast operating results, cash flows or key assumptions in the future could result in an impairment charge of a portion or all of the goodwill balance.

Other Intangible Assets

Included in other long-term assets at December 31, 2016 and 2015, is a \$10 and \$12, respectively, customer relationship intangible resulting from the Keystone acquisition. This intangible is being amortized on a straight-line basis over a period of eight years.

Note 8: Stockholders' Equity

Common Stock

Under the dividend reinvestment and direct stock purchase plan (the "DRIP"), stockholders may reinvest cash dividends and purchase additional Company common stock, up to certain limits, through the plan administrator without commission fees. Shares purchased by participants through the DRIP may be newly-issued shares, treasury shares, or at the Company's election, shares purchased by the plan administrator in the open market or in privately negotiated transactions. Purchases generally will be made and credited to DRIP accounts once each week. As of December 31, 2016, there were approximately 4.4 shares available for future issuance under the DRIP.

Anti-dilutive Stock Repurchase Program

In February 2015, the Company's Board of Directors authorized an anti-dilutive stock repurchase program, which allowed the Company to purchase up to 10 shares of its outstanding common stock over an unrestricted period of time. The Company repurchased 1.0 shares and 2.3 shares of common stock in the open market at an aggregate cost of \$65 and \$126 under this program for the years ended December 31, 2016 and 2015, respectively. As of December 31, 2016, there were 6.8 shares of common stock available for purchase under the program.

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Accumulated Other Comprehensive Loss

The following table presents changes in accumulated other comprehensive loss by component, net of tax, for the years ended December 31, 2016 and 2015:

	Defined Benefit Plans				Foreign Currency Translation	Gain (Loss) on Cash Flow Hedge	Accumulated Other Comprehensive Loss
	Employee Benefit Plan Funded Status	Amortization of Prior Service Cost	Amortization of Actuarial Loss				
Beginning balance as of January 1, 2015	\$(116)	\$ 1	\$ 31	\$ 3	\$ (1)	\$ (82)	
Other comprehensive loss before							
reclassification	(10)	—	—	(1)	—	(11)	
Amounts reclassified from accumulated							
other comprehensive income	—	—	5	—	—	5	
Net other comprehensive income (loss)	(10)	—	5	(1)	—	(6)	
Ending balance as of December 31, 2015	\$(126)	\$ 1	\$ 36	\$ 2	\$ (1)	\$ (88)	
Other comprehensive gain (loss) before							
reclassification	(21)	—	—	—	17	(4)	
Amounts reclassified from accumulated							
other comprehensive income	—	—	6	—	—	6	
Net other comprehensive income (loss)	(21)	—	6	—	17	2	
Ending balance as of December 31, 2016	\$(147)	\$ 1	\$ 42	\$ 2	\$ 16	\$ (86)	

The Company does not reclassify the amortization of defined benefit pension cost components from accumulated other comprehensive loss directly to net income in its entirety, as a portion of these costs have been capitalized as a regulatory asset. These accumulated other comprehensive loss components are included in the computation of net periodic pension cost. See Note 14—Employee Benefits.

The amortization of the loss on cash flow hedge is reclassified to net income during the period incurred and is included in interest, net in the accompanying Consolidated Statements of Operations.

Note 9: Stock Based Compensation

The Company has granted stock options and restricted stock unit (“RSUs”) awards to non-employee directors, officers and other key employees of the Company pursuant to the terms of its 2007 Omnibus Equity Compensation Plan (the “2007 Plan”). The total aggregate number of shares of common stock that may be issued under the 2007 Plan is 15.5. As of December 31, 2016, 7.9 shares were available for grant under the 2007 Plan. Shares issued under the 2007 Plan

may be authorized but unissued shares of Company stock or treasury shares, including shares purchased by the Company on the open market.

The cost of services received from employees in exchange for the issuance of stock options and restricted stock awards is measured based on the grant date fair value of the awards issued. The value of stock options and RSUs awards at the date of the grant is amortized through expense over the three-year service period. All awards granted in 2016, 2015 and 2014 are classified as equity. The Company recognizes compensation expense for stock awards over the vesting period of the award. The Company stratified its grant populations and used historic employee turnover rates to estimate employee forfeitures. The estimated rate is compared to the actual forfeitures at the end of the reporting period and adjusted as necessary. The following table presents stock-based compensation expense recorded in operation and maintenance expense in the accompanying Consolidated Statements of Operations for the years ended December 31:

	2016	2015	2014
Stock options	\$ 2	\$ 2	\$ 2
RSUs	8	8	10
ESPP	1	1	1
Stock-based compensation	11	11	13
Income tax benefit	(4)	(4)	(5)
Stock-based compensation expense, net of tax	\$ 7	\$ 7	\$ 8

There were no significant stock-based compensation costs capitalized during the years ended December 31, 2016, 2015 and 2014.

The Company receives a tax deduction based on the intrinsic value of the award at the exercise date for stock options and the distribution date for RSUs. For each award, throughout the requisite service period, the Company recognizes the tax benefits, which have been included in deferred income tax assets, related to compensation costs. The tax deductions in excess of the benefits recorded throughout the requisite service period are recorded to common stockholders' equity or the statement of operations and are presented in the financing section of the Consolidated Statements of Cash Flows.

Stock Options

In 2016, 2015 and 2014, the Company granted non-qualified stock options to certain employees under the 2007 Plan. The stock options vest ratably over the three-year service period beginning on January 1 of the year of the grant and have no performance vesting conditions. Expense is recognized using the straight-line method and is amortized over the requisite service period.

The following table summarizes the weighted-average assumptions used in the Black-Scholes option-pricing model for grants and the resulting weighted-average grant date fair value per share of stock options granted for the years ended December 31:

	2016	2015	2014
Dividend yield	2.09 %	2.35 %	2.55 %
Expected volatility	15.89%	17.64%	17.75%
Risk-free interest rate	1.15 %	1.48 %	1.06 %
Expected life (years)	4.0	4.4	3.6
Exercise price	\$65.25	\$52.75	\$44.29
Grant date fair value per share	\$6.61	\$6.21	\$4.57

The Company used the actual historical experience of exercises or expirations of the 2009 grant to determine the expected stock option life. The Company began granting stock options at the time of its initial public offering in April 2008. Expected volatility is based on a weighted average of historic volatilities of traded common stock of peer companies (regulated water companies) over the expected term of the stock options and historic volatilities of the Company's common stock during the period it has been publicly traded. The dividend yield is based on the Company's expected dividend payments and the stock price on the date of grant. The risk-free interest rate is the market yield on U.S. Treasury strips with maturities similar to the expected term of the stock options. The exercise price of the stock options is equal to the fair market value of the underlying stock on the date of option grant. Stock options vest over periods ranging from one to three years and have a maximum term of seven years from the effective date of the grant.

The table below summarizes stock option activity for the year ended December 31, 2016:

Shares	Weighted- Average	Weighted- Average	Aggregate
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	(in thousands)	Exercise Price (per share)	Remaining Life (years)	Intrinsic Value
Options outstanding as of December 31, 2015	1,187	\$ 39.70	3.9	\$ 24
Granted	341	65.26		
Forfeited or expired	(74)	56.25		
Exercised	(467)	32.64		
Options outstanding as of December 31, 2016	987	\$ 50.65	4.3	\$ 21
Exercisable as of December 31, 2016	450	\$ 41.22	2.9	\$ 14

As of December 31, 2016, \$2 of total unrecognized compensation cost related to nonvested stock options is expected to be recognized over the remaining weighted-average period of 1.7 years. The total fair value of stock options vested was \$1 for the year ended December 31, 2016 and \$3 for the years ended December 31, 2015 and 2014.

The following table summarizes additional information regarding stock options exercised during the years ended December 31:

	2016	2015	2014
Intrinsic value	\$ 18	\$ 22	\$ 13
Exercise proceeds	15	30	15
Income tax benefit realized	6	7	4

RSUs

During 2016, 2015 and 2014, the Company granted RSUs, both with and without performance conditions, to certain employees under the 2007 Plan. RSUs generally vest over periods ranging from one to three years.

During 2016, 2015 and 2014, the Company granted RSUs to non-employee directors under the 2007 Plan. The RSUs vested on the date of grant; however, distribution of the shares will be made within 30 days of the earlier of: (i) 15 months after grant date, subject to any deferral election by the director; or (ii) the participant's separation from service. Because these RSUs vested on the grant date, the total grant date fair value was recorded in operation and maintenance expense included in the expense table above on the grant date.

The RSUs without performance conditions are valued at the market value of the closing price of the Company's common stock on the date of the grant and vest ratably over the three-year service period beginning January 1 of the year of the grant. These RSUs are amortized through expense over the requisite service period using the straight-line method.

The table below summarizes activity of RSUs without performance conditions for the year ended December 31, 2016:

	Shares	Weighted Average Grant Date Fair Value
	(in thousands)	(per share)
Non-vested total as of December 31, 2015	81	\$ 48.71
Granted	47	67.71
Vested	(45)	54.06
Forfeited	(9)	57.99
Non-vested total as of December 31, 2016	74	\$ 56.43

RSUs with performance conditions vest ratably over the three-year performance period beginning January 1 of the year of the grant (the “Performance Period”). Distribution of the performance shares is contingent upon the achievement of internal performance measures and, separately, certain market thresholds over the Performance Period.

RSUs granted with internal performance measures are valued at the market value of the closing price of the Company’s common stock on the date of grant. RSUs granted with market conditions are valued using a Monte Carlo model. Expected volatility is based on historical volatilities of traded common stock of the Company and comparative companies using daily stock prices over the past three years. The expected term is three years and the risk-free interest rate is based on the three-year U.S. Treasury rate in effect as of the measurement date. The following table presents the weighted-average assumptions used in the Monte Carlo simulation and the weighted-average grant date fair values of RSUs granted for the years ended December 31:

	2016	2015	2014
Expected volatility	15.90%	14.93%	17.78%
Risk-free interest rate	0.91 %	1.07 %	0.75 %
Expected life (years)	3.0	3.0	3.0
Grant date fair value per share	\$77.16	\$62.10	\$45.45

The grant date fair value of restricted stock awards that vest ratably and have market and/or performance conditions are amortized through expense over the requisite service period using the graded-vesting method.

The table below summarizes activity of RSUs with performance conditions for the year ended December 31, 2016:

	Shares	Weighted Average Grant Date Fair Value
	(in thousands)	(per share)
Non-vested total as of December 31, 2015	366	\$ 45.91
Granted (a)	173	57.47
Vested	(206)	40.01
Forfeited	(24)	49.89
Non-vested total as of December 31, 2016	309	\$ 55.94

(a) During 2014, the Company granted selected employees an aggregate of 128 thousand RSUs with internal performance measures and, separately, certain market thresholds. These awards vested in January 2016. The terms of the grants specified that to the extent certain performance goals, comprised of internal measures and, separately, market thresholds were achieved, the RSUs would vest; if performance goals were surpassed, up to 175% of the target awards would be distributed; and if performance goals were not met, the awards would be forfeited. In January 2016, an additional 74 thousand RSUs were granted and distributed because performance thresholds were exceeded and were included in the number of shares granted.

As of December 31, 2016, \$4 of total unrecognized compensation cost related to the nonvested restricted stock units, with and without performance conditions, is expected to be recognized over the weighted-average remaining life of 1.4 years. The total fair value of RSUs, with and without performance conditions, vested was \$14, \$12 and \$11 for the years ended December 31, 2016, 2015 and 2014, respectively.

If dividends are paid with respect to shares of the Company's common stock before the RSUs are distributed, the Company credits a liability for the value of the dividends that would have been paid if the RSUs were shares of Company common stock. When the RSUs are distributed, the Company pays the participant a lump sum cash payment equal to the value of the dividend equivalents accrued. The Company accrued dividend equivalents totaling \$1 to accumulated deficit in the accompanying Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2016, 2015 and 2014, respectively.

Employee Stock Purchase Plan

Under the Nonqualified Employee Stock Purchase Plan ("ESPP"), employees can use payroll deductions to acquire Company stock at the lesser of 90% of the fair market value of common stock at either the beginning or the end of a three-month purchase period. As of December 31, 2016, there were 1.1 shares of common stock reserved for issuance under the ESPP. The Company's ESPP is considered compensatory. During the years ended December 31, 2016, 2015 and 2014, the Company issued 93, 98 and 102 thousand shares, respectively, under the ESPP.

Note 10: Long-Term Debt

The Company obtains long-term debt primarily to fund capital expenditures of the regulated subsidiaries and refinance debt of the parent company. The following table summarizes the components of long-term debt as of December 31:

	Rate	Weighted Average Rate	Maturity	2016	2015
Long-term debt of American Water Capital Corp. (a)					
Senior notes—fixed rate	3.00%-8.27%	5.04%	2017-2046	\$4,786	\$4,273
Private activity bonds and government funded					
debt—fixed rate	1.79%-6.25%	5.42%	2021-2040	194	195
Long-term debt of other American Water subsidiaries					
Private activity bonds and government funded					
debt—fixed rate (b)	0.00%-6.20%	4.72%	2017-2041	695	790
Mortgage bonds—fixed rate	4.29%-9.71%	7.41%	2017-2039	636	637
Mandatorily redeemable preferred stock	8.47%-9.75%	8.61%	2019-2036	12	13
Capital lease obligations	12.23%-12.44%	12.39%	2026	1	1
				6,324	5,909
Unamortized debt premium, net (c)				17	23
Unamortized debt issuance costs				(9)	(7)
Interest rate swap fair value adjustment				1	3
Less current portion of long-term debt				(574)	(54)
Total long-term debt				\$5,759	\$5,874

(a) This indebtedness is considered “debt” for purposes of a support agreement between American Water and American Water Capital Corp. (“AWCC”), American Water’s wholly owned finance subsidiary, which serves as a functional equivalent of a guarantee by American Water of AWCC’s payment obligations under such indebtedness.

(b) Includes \$6 and \$8 of variable rate debt with variable-to-fixed interest rate swaps ranging between 3.93% and 4.65%, as of December 31, 2016 and 2015. This debt was assumed via an acquisition in 2013.

(c) Primarily fair value adjustments previously recognized in acquisition purchase accounting.

All mortgage bonds and \$619 of the private activity bonds and government funded debt held by the subsidiaries were collateralized by utility plant as of December 31, 2016.

Long-term debt indentures contain a number of covenants that, among other things, limit, subject to certain exceptions, the Company from issuing debt secured by the Company’s assets. Certain long term notes require the Company to maintain a ratio of consolidated total indebtedness to consolidated total capitalization of not more than 0.70 to 1.00. The ratio as of December 31, 2016 was 0.58 to 1.00. In addition, the Company has \$891 of notes which include the right to redeem the notes at par in whole or in part from time to time subject to certain restrictions.

The future sinking fund payments and debt maturities were as follows:

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Year	Amount
2017	\$ 574
2018	457
2019	166
2020	22
2021	479
Thereafter	4,626

The following long-term debt was issued in 2016:

Company	Type	Rate	Maturity	Amount
American Water Capital Corp.	Senior notes—fixed rate Private activity bonds and government	3.00%-4.00%	2026-2046	\$ 550
Other American Water subsidiaries	funded debt—fixed rate	1.00%-1.36%	2026-2037	3
Total issuances				\$ 553

The Company also assumed debt of \$6 as a result of an acquisition during 2016, which has a fixed interest rate of 1.00% and matures in 2037. The Company incurred debt issuance costs of \$5 related to the above issuances.

The following long-term debt was retired through optional redemption or payment at maturity during 2016:

Company	Type	Rate	Maturity	Amount
American Water Capital Corp.	Senior notes—fixed rate	5.52%	2016	\$ 37
	Private activity bonds and government			
American Water Capital Corp.	funded debt—fixed rate	1.79%-2.90%	2021-2031	1
	Private activity bonds and government			
Other American Water subsidiaries	funded debt—fixed rate	0.00%-5.30%	2016-2041	104
Other American Water subsidiaries	Mandatorily redeemable preferred stock	8.49%-9.18%	2031-2036	2
Total retirements and redemptions				\$ 144

Interest, net includes interest income of approximately \$14, \$13 and \$11 in 2016, 2015 and 2014, respectively.

One of the principal market risks to which the Company is exposed is changes in interest rates. In order to manage the exposure, the Company follows risk management policies and procedures, including the use of derivative contracts such as swaps. The Company reduces exposure to interest rates by managing commercial paper and debt maturities. The Company does not enter into derivative contracts for speculative purposes and does not use leveraged instruments. The derivative contracts entered into are for periods consistent with the related underlying exposures. The Company is exposed to the risk that counterparties to derivative contracts will fail to meet their contractual obligations. The Company minimizes the counterparty credit risk on these transactions by dealing only with leading, credit-worthy financial institutions having long-term credit ratings of “A” or better.

The Company has four forward starting swap agreements with an aggregate notional amount of \$300 to reduce interest rate exposure on debt expected to be issued in 2017. The forward starting swap agreements terminate in December 2017 and have an average fixed rate of 2.20%. The Company has designated the forward starting swap agreements as cash flow hedges and the initial fair value, in addition to any subsequent changes in fair value, are recognized in accumulated other comprehensive gain. Upon termination, the cumulative gain or loss recorded in accumulated other comprehensive gain or loss will be amortized through interest, net over the term of the issued debt. On February 8, 2017, the Company entered into a forward starting swap agreement with a notional amount of \$100 to reduce interest rate exposure on debt expected to be issued in 2018. This forward starting swap agreement terminates in December 2018 and has an average fixed rate of 2.67%. The forward starting swap agreement is a cash flow hedge and the Company will account for this forward starting swap agreement in the same manner as the aforementioned forward starting swap agreements above.

The Company has an interest-rate swap to hedge \$100 of its 6.085% fixed-rate debt maturing 2017. The Company pays variable interest of six-month LIBOR plus 3.422% and the interest rate swap matures with the fixed-rate debt in 2017. The Company has designated the interest rate swap as a fair value hedge accounted for at fair value with gains or losses, as well as the offsetting gains or losses on the hedged item, recognized in interest, net. The net loss recognized by the Company was de minimis for the periods ended December 31, 2016 and 2015.

The Company has employed interest rate swaps to fix the interest cost on a portion of its variable-rate debt with an aggregate notional amount of \$6. The Company has designated these instruments as economic hedges accounted for at fair value with gains or losses recognized in interest, net. The gain recognized by the Company was de minimis for the years ended 2016 and 2015.

The following table provides a summary of the gross fair value for the Company's derivative asset and liabilities, as well as the location of the asset and liability balances in the Consolidated Balance Sheets

Derivative Instruments	Derivative Designation	Balance Sheet Classification	December 31, 2016	December 31, 2015
Asset Derivative				
Interest rate swap	Fair value hedge	Other long-term assets	\$ —	\$ 2
Interest rate swap	Fair value hedge	Other current assets	1	—
Forward starting swaps	Cash flow hedge	Other current assets	27	—
Liability Derivative				
Interest rate swap	Fair value hedge	Long-term debt Current portion of long-term	\$ —	\$ 2
Interest rate swap	Fair value hedge	debt	1	—
Interest rate swap	Economic hedge (non-designated)	Other long-term liabilities	—	1

Note 11: Short-Term Debt

Short-term debt consists of commercial paper and credit facility borrowings totaling \$849 and \$628 as of December 31, 2016 and 2015, respectively. As of December 31, 2016 there were no borrowings outstanding with maturities greater than three months.

AWCC has a revolving credit facility with \$1,750 in aggregate total commitments from a diversified group of financial institutions with a termination date of June 2020. On March 22, 2016, AWCC and its lenders agreed to increase total commitments under AWCC's revolving credit facility to the \$1,750 from \$1,250. Other terms and conditions of the existing facility remained unchanged. The agreement also includes a \$150 sublimit for letters of credit and a \$100 sublimit for swing loans. The Company incurred \$1 of issuance costs in connection with the increased lending commitments for the year ended December 31, 2016. On June 30, 2015, AWCC and its lenders extended the termination date of revolving credit facility from October 2018 to June 2020. This amended and restated agreement also allowed AWCC to request to further extend the term of the credit facility for up to two one-year periods. As a result of the amendments made in 2015, the Company incurred \$2 of issuance costs for the year ended December 31, 2015. Both the issuance costs incurred in 2016 and 2015 will be amortized over the remaining life of the credit facility and is included in interest, net in the accompanying Consolidated Statements of Operations. Interest on borrowings are based on a LIBOR-based rate, plus an applicable margin.

Also, the Company acquired a line of credit facility as part of the Keystone acquisition. This facility has a maximum availability of up to \$16, dependent on a collateral base calculation. Based on the collateral assets at December 31, 2016, \$6 was available to borrow. At December 31, 2016, there were no outstanding borrowings on this line of credit facility. Borrowings under the facility are due upon demand with interest being paid monthly. Interest accrues each day at a rate per annum equal to 2.75% above the greater of the one month or one day LIBOR. The borrowing base under the facility allows for financing up to the greater of the note or 80% of eligible accounts receivable.

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The following table summarizes the Company's aggregate credit facility commitments, letter of credit sub-limit under our revolving credit facility and commercial paper limit, as well as the available capacity for each as of:

	Credit Facility Commitments (In millions)	Available Credit Facility Capacity	Letter of Credit Sublimit (a)	Available Letter of Credit Capacity	Commercial Paper Limit	Available Commercial Paper Capacity
December 31, 2016	\$1,766	\$ 1,668	\$ 150	\$ 62	\$ 1,600	\$ 751
December 31, 2015	1,266	1,182	150	68	1,000	374

(a) Letters of credit are non-debt instruments maintained to provide credit support for certain transactions as requested by third parties. The Company had \$88 and \$82 of outstanding letters of credit as of December 31, 2016 and 2015, respectively, all of which were issued under the revolving credit facility noted above.

The following table summarizes the short-term borrowing activity for AWCC for the years ended December 31:

	2016	2015
Average borrowings	\$850	\$553
Maximum borrowings outstanding	1,016	871
Weighted average interest rates, computed on daily basis	0.78 %	0.49%
Weighted average interest rates, as of December 31	0.98 %	0.66%

The credit facility requires the Company to maintain a ratio of consolidated debt to consolidated capitalization of not more than 0.70 to 1.00. The ratio as of December 31, 2016 was 0.58 to 1.00.

None of the Company's borrowings are subject to default or prepayment as a result of a downgrading of securities, although such a downgrading could increase fees and interest charges under the Company's credit facility.

As part of the normal course of business, the Company routinely enters contracts for the purchase and sale of water, energy, fuels and other services. These contracts either contain express provisions or otherwise permit the Company and its counterparties to demand adequate assurance of future performance when there are reasonable grounds for doing so. In accordance with the contracts and applicable contract law, if the Company is downgraded by a credit rating agency, especially if such downgrade is to a level below investment grade, it is possible that a counterparty would attempt to rely on such a downgrade as a basis for making a demand for adequate assurance of future performance. Depending on the Company's net position with the counterparty, the demand could be for the posting of collateral. In the absence of expressly agreed provisions that specify the collateral that must be provided, the obligation to supply the collateral requested will be a function of the facts and circumstances of the Company's situation at the time of the demand. If the Company can reasonably claim that it is willing and financially able to perform its obligations, it may be possible that no collateral would need to be posted or that only an amount equal to two or three months of future payments should be sufficient. The Company does not expect to post any collateral which will have a material adverse impact on the Company's results of operations, financial position or cash flows.

Note 12: General Taxes

The following table summarizes the components of general tax expense from continuing operations for the years ended December 31:

	2016	2015	2014
Gross receipts and franchise	\$106	\$99	\$96
Property and capital stock	106	98	96
Payroll	32	31	31
Other general	14	15	13
Total general taxes	\$258	\$243	\$236

Note 13: Income Taxes

The following table summarizes the components of income tax expense from continuing operations for the years ended December 31:

	2016	2015	2014
Current income taxes			
State	\$20	\$10	\$11
Federal	1	—	15
Total current income taxes	\$21	\$10	\$26
Deferred income taxes			
State	\$24	\$32	\$31
Federal	258	265	224
Amortization of deferred investment tax credits	(1)	(1)	(1)
Total deferred income taxes	281	296	254
Provision for income taxes	\$302	\$306	\$280

The following is a reconciliation between the statutory federal income tax rate and the Company's effective tax rate for the years ended December 31:

	2016	2015	2014
Income tax at statutory rate	35.0%	35.0%	35.0%
Increases (decreases) resulting from:			
State taxes, net of federal taxes	3.8	3.6	3.8
Federal regulatory effects	0.2	0.4	0.3
Other, net	0.2	0.1	0.3
Effective tax rate	39.2%	39.1%	39.4%

The following table provides the components of the net deferred tax liability from continuing operations as of December 31:

	2016	2015
Deferred tax assets		
Advances and contributions	\$540	\$513
Tax losses and credits	301	173
Pension and other postretirement benefits	173	181
Other	90	32
Total deferred tax assets	1,104	899
Valuation allowance	(6)	(8)
Total deferred tax assets, net of allowance	\$1,098	\$891
Deferred tax liabilities		
Property, plant and equipment	\$3,339	\$2,913
Deferred pension and other postretirement benefits	126	139

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Other	229	149
Total deferred tax liabilities	3,694	3,201
Total deferred tax liabilities, net of deferred tax assets	\$(2,596)	\$(2,310)

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As of December 31, 2016 and 2015, the Company recognized federal net operating loss (“NOL”) carryforwards of \$1,227 and \$1,080, respectively. The 2016 NOL carryforward includes \$56 of windfall tax deductions the benefit of which will not be recorded to equity until realized. The Company believes the federal NOL carryforwards are more likely than not to be recovered and require no valuation allowance. The Company’s federal NOL carryforwards will begin to expire in 2028.

As of December 31, 2016 and 2015, the Company had state NOLs of \$625 and \$534, respectively, a portion of which are offset by a valuation allowance because the Company does not believe these NOLs are more likely than not to be realized. The state NOL carryforwards will begin to expire in 2017 through 2036.

As of December 31, 2016 and 2015, the Company had an insignificant amount of Canadian NOL carryforwards and capital loss carryforwards for federal income tax purposes.

The Company files income tax returns in the United States federal jurisdiction and various state and foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state or local or non-U.S. income tax examinations by tax authorities for years on or before 2012. The Company has state income tax examinations in progress and does not expect material adjustments to result.

The Patient Protection and Affordable Care Act (the “PPACA”) became law on March 23, 2010, and the Health Care and Education Reconciliation Act of 2010 became law on March 30, 2010, which makes various amendments to certain aspects of the PPACA (together, the “Acts”). The PPACA effectively changes the tax treatment of federal subsidies paid to sponsors of retiree health benefit plans that provide a benefit that is at least actuarially equivalent to the benefits under Medicare Part D. The Acts effectively make the subsidy payments taxable in tax years beginning after December 31, 2012 and as a result, the Company followed its original accounting for the underfunded status of the other postretirement benefits for the Medicare Part D adjustment and recorded a reduction in deferred tax assets and an increase in its regulatory assets amounting to \$6 as of December 31, 2016 and 2015.

In connection with the filing of the Company’s consolidated 2015 tax return in September 2015, the Company deducted bonus depreciation, of which approximately \$106 of deferred tax liabilities is related to the Regulated Businesses segment.

The following table summarizes the changes in the Company’s gross liability, excluding interest and penalties, for unrecognized tax benefits:

Balance as of January 1, 2015	\$ 195
Increases in current period tax positions	39
Decreases in prior period measurement of tax positions	(1)
Balance as of December 31, 2015	\$ 233
Increases in current period tax positions	10
Decreases in prior period measurement of tax positions	(74)
Balance as of December 31, 2016	\$ 169

The Company’s tax positions relate primarily to the deductions claimed for repair and maintenance costs on its utility plant. The gross liability was significantly reduced as a result of the accounting method change filed with Company’s 2015 tax return during the current year. The Company does not anticipate material changes to its unrecognized tax benefits within the next year. If the Company sustains all of its positions as of December 31, 2016 and 2015, an unrecognized tax benefit of \$9, excluding interest and penalties, would impact the Company’s effective tax rate. The Company had an insignificant amount of interest and penalties related to its tax positions as of December 31, 2016

and 2015.

The following table summarizes the changes in the Company's valuation allowance:

Balance as of January 1, 2014	\$ 13
Decreases in current period tax positions	(3)
Balance as of December 31, 2014	\$ 10
Decreases in current period tax positions	(2)
Balance as of December 31, 2015	\$ 8
Decreases in current period tax positions	(2)
Balance as of December 31, 2016	\$ 6

Note 14: Employee Benefits

Pension and Other Postretirement Benefits

The Company maintains noncontributory defined benefit pension plans covering eligible employees of its regulated utility and shared services operations. Benefits under the plans are based on the employee's years of service and compensation. The pension plans have been closed for all new employees. The pension plans were closed for most employees hired on or after January 1, 2006. Union employees hired on or after January 1, 2001 had their accrued benefit frozen and will be able to receive this benefit as a lump sum upon termination or retirement. Union employees hired on or after January 1, 2001 and non-union employees hired on or after January 1, 2006 are provided with a 5.25% of base pay defined contribution plan. The Company does not participate in a multiemployer plan.

The Company's pension funding practice is to contribute at least the greater of the minimum amount required by the Employee Retirement Income Security Act of 1974 or the normal cost. Further, the Company will consider additional contributions if needed to avoid "at risk" status and benefit restrictions under the Pension Protection Act of 2006. The Company may also consider increased contributions, based on other financial requirements and the plans' funded position. Pension plan assets are invested in a number of actively managed and commingled funds including equities, fixed income securities, guaranteed interest contracts with insurance companies, real estate funds and real estate investment trusts ("REITs").

Pension expense in excess of the amount contributed to the pension plans is deferred by certain regulated subsidiaries pending future recovery in rates charged for utility services as contributions are made to the plans. See Note 6—Regulatory Assets and Liabilities.

The Company also has unfunded noncontributory supplemental non-qualified pension plans that provide additional retirement benefits to certain employees.

The Company maintains other postretirement benefit plans providing varying levels of medical and life insurance to eligible retirees. The retiree welfare plans are closed for union employees hired on or after January 1, 2006. The plans had previously closed for non-union employees hired on or after January 1, 2002.

The Company's policy is to fund other postretirement benefit costs up to the amount recoverable through rates. Assets of the plans are invested in a number of actively managed and commingled funds including equities and fixed income securities.

The obligations of the pension and postretirement benefit plans are dominated by obligations for active employees. Because the timing of expected benefit payments is so far in the future, the investment strategy is to allocate a significant percentage of assets to equities, which the Company believes will provide the highest return over the long-term period. The fixed income assets are invested in intermediate and long duration debt securities and may be invested in fixed income instruments, such as futures and options, in order to better match the duration of the plan liability.

The Company periodically conducts asset liability studies to ensure the investment strategies are aligned with the profile of the plans' obligations.

None of the Company's securities are included in pension or other postretirement benefit plan assets.

The Company uses fair value for all classes of assets in the calculation of market-related value of plan assets.

The investment policy guidelines of the pension plan require that the fixed income portfolio has an overall weighted-average credit rating of A or better by Standard & Poor's.

The investment policies' objectives are focused on reducing the volatility of the plans' funding status over a long term horizon.

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The fair values and asset allocations of pension plan assets as of December 31, 2016 and 2015, respectively, by asset category were as follows:

Asset Category	Target Allocation		Quoted Prices in Active Markets for Identical Assets			Significant Observable Inputs	Significant Unobservable Inputs	Percentage of Plan Assets as of December 31, 2016	
	2017	Total	(Level 1)	(Level 2)	(Level 3)				
Cash	—	\$10	\$ 10	\$ —	\$ —			—	
Equity Securities:									
U.S. large cap	24	% 316	316	—	—			22	%
U.S. small cap	8	% 134	134	—	—			9	%
International	20	% 259	—	259	—			18	%
Fixed Income Securities:	40	%						42	%
U.S. Treasury securities and government bonds	—	150	114	36	—			—	
Corporate bonds	—	391	—	391	—			—	
Mortgage-backed securities	—	3	—	3	—			—	
Long duration bond fund	—	7	7	—	—			—	
Guarantee annuity contracts	—	48	—	9	39			—	
Real Estate Fund	6	% 101	—	—	101			7	%
REITs	2	% 24	—	24	—			2	%
Total	100	% \$1,443	\$ 581	\$ 722	\$ 140			100	%

Asset Category	Target Allocation		Quoted Prices in Active Markets for Identical Assets			Significant Observable Inputs	Significant Unobservable Inputs	Percentage of Plan Assets as of December 31, 2015	
	2016	Total	(Level 1)	(Level 2)	(Level 3)				
Cash	—	\$5	\$ 5	\$ —	\$ —			—	
Equity Securities:									
U.S. large cap	24	% 318	318	—	—			23	%
U.S. small cap	8	% 115	115	—	—			8	%
International	20	% 260	—	260	—			19	%
Fixed Income Securities:	40	%						41	%
U.S. Treasury and government bonds	—	120	95	25	—			—	
Corporate bonds	—	375	—	375	—			—	
Mortgage-backed securities	—	9	—	9	—			—	
Long duration bond fund	—	7	7	—	—			—	
Guarantee annuity contracts	—	49	—	8	41			—	

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Real Estate	6	%	95	—	—	95	7	%
REITs	2	%	23	—	23	—	2	%
Total	100	%	\$1,376	\$ 540	\$ 700	\$ 136	100	%

The following tables present a reconciliation of the beginning and ending balances of the fair value measurements using significant unobservable inputs (Level 3) for 2016 and 2015, respectively:

	Level
	3
Balance as of January 1, 2016	\$136
Actual return on assets	8
Purchases, issuances and settlements, net	(4)
Balance as of December 31, 2016	\$140

	Level 3
Balance as of January 1, 2015	\$ 127
Actual return on assets	12
Purchases, issuances and settlements, net	(3)
Balance as of December 31, 2015	\$ 136

The Company's other postretirement benefit plans are partially funded and the assets are held under various trusts. The investments and risk mitigation strategies for the plans are tailored specifically for each trust. In setting new strategic asset mixes, consideration is given to the likelihood that the selected asset allocation will effectively fund the projected plan liabilities and the risk tolerance of the Company. The Company periodically updates the long-term, strategic asset allocations and uses various analytics to determine the optimal asset allocation. Considerations include plan liability characteristics, liquidity characteristics, funding requirements, expected rates of return and the distribution of returns.

In June 2012, the Company implemented a de-risking strategy for the medical bargaining trust within the plan to minimize volatility. As part of the de-risking strategy, the Company revised the asset allocations to increase the matching characteristics of assets relative to liabilities. The initial de-risking asset allocation for the plan was 60% return-generating assets and 40% liability-driven assets. The investment strategies and policies for the plan reflect a balance of liability driven and return-generating considerations. The objective of minimizing the volatility of assets relative to liabilities is addressed primarily through asset—liability matching, asset diversification and hedging. The fixed income target asset allocation matches the bond-like and long-dated nature of the postretirement liabilities. Assets are broadly diversified within asset classes to achieve risk-adjusted returns that in total lower asset volatility relative to the liabilities. The Company assesses the investment strategy regularly to ensure actual allocations are in line with target allocations as appropriate. Strategies to address the goal of ensuring sufficient assets to pay benefits include target allocations to a broad array of asset classes and, within asset classes strategies are employed to provide adequate returns, diversification and liquidity.

The assets of the Company's other trusts, within the other postretirement benefit plans, have been primarily invested in equities and fixed income funds. The assets under the various other postretirement benefit trusts are invested differently based on the assets and liabilities of each trust. The obligations of the other postretirement benefit plans are dominated by obligations for the medical bargaining trust. Thirty-nine percent and four percent of the total postretirement plan benefit obligations are related to the medical non-bargaining and life insurance trusts, respectively. Because expected benefit payments related to the benefit obligations are so far into the future, and the size of the medical non-bargaining and life insurance trusts' obligations are large compared to each trusts' assets, the investment strategy is to allocate a significant portion of the assets' investment to equities, which the Company believes will provide the highest long-term return and improve the funding ratio.

The Company engages third party investment managers for all invested assets. Managers are not permitted to invest outside of the asset class (e.g. fixed income, equity, alternatives) or strategy for which they have been appointed. Investment management agreements and recurring performance and attribution analysis are used as tools to ensure investment managers invest solely within the investment strategy they have been provided. Futures and options may be used to adjust portfolio duration to align with a plan's targeted investment policy.

In order to minimize asset volatility relative to the liabilities, a portion of plan assets is allocated to fixed income investments that are exposed to interest rate risk. Increases in interest rates generally will result in a decline in the

value of fixed income assets while reducing the present value of the liabilities. Conversely, rate decreases will increase fixed income assets, partially offsetting the related increase in the liabilities. Within equities, risk is mitigated by constructing a portfolio that is broadly diversified by geography, market capitalization, manager mandate size, investment style and process.

Actual allocations to each asset class vary from target allocations due to periodic investment strategy updates, market value fluctuations, the length of time it takes to fully implement investment allocation, and the timing of benefit payments and contributions. The asset allocation is rebalanced on a quarterly basis, if necessary.

The fair values and asset allocations of postretirement benefit plan assets as of December 31, 2016 and 2015, respectively, by asset category, were as follows:

Asset Category	Target Allocation		Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Percentage of Plan Assets as of December 31, 2016	
	2017	Total						
Bargain VEBA:								
Equity Securities:								
U.S. large cap	9	% \$35	\$ 35		\$ —	\$ —	9	%
International	11	% 40	40		—	—	10	%
Fixed Income Securities:	80	%					81	%
U.S. Treasury securities and								
government bonds	—	84	84		—	—	—	
Corporate bonds	—	223	—		223	—	—	
Long duration bond fund	—	3	3		—	—	—	
Future and option contracts (a)	—	1	1		—	—	—	
Total Bargain VEBA	100	% \$386	\$ 163		\$ 223	\$ —	100	%
Non-bargain VEBA:								
Cash	—	\$2	\$ 2		\$ —	\$ —	—	
Equity Securities:								
U.S. large cap	21	% 29	29		—	—	22	%
U.S. small cap	21	% 30	30		—	—	22	%
International	28	% 37	37		—	—	27	%
Fixed Income Securities:	30	%					29	%
Core fixed income bond fund	—	36	36		—	—	—	
Total Non-bargain VEBA	100	% \$134	\$ 134		\$ —	\$ —	100	%
Life VEBA:								
Equity Securities:								
U.S. large cap	70	% \$3	\$ 3		\$ —	\$ —	64	%
Fixed Income Securities:	30	%					36	%
Core fixed income bond fund	—	2	2		—	—	—	
Total Life VEBA	100	% \$5	\$ 5		\$ —	\$ —	100	%
Total	100	% \$525	\$ 302		\$ 223	\$ —	100	%

(a) Includes cash for margin requirements.

Asset Category	Target Allocation		Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Percentage of Plan Assets as of December 31, 2015	
	2016	Total						
Bargain VEBA:								
Equity Securities:								
U.S. large cap	9	%	\$32	\$ 32	\$ —	\$ —	9	%
International	11	%	38	38	—	—	10	%
Fixed Income Securities:	80	%					81	%
U.S. Treasury and government bonds	—		118	118	—	—	—	
Corporate bonds	—		184	—	184	—	—	
Long duration bond fund	—		3	3	—	—	—	
Future and option contracts (a)	—		1	1	—	—	—	
Total Bargain VEBA	100	%	\$376	\$ 192	\$ 184	\$ —	100	%
Non-bargain VEBA:								
Cash	—		\$2	\$ 2	\$ —	\$ —	—	
Equity Securities:								
U.S. large cap	21	%	24	24	—	—	21	%
U.S. small cap	21	%	26	26	—	—	22	%
International	28	%	33	33	—	—	28	%
Fixed Income Securities:	30	%					29	%
Core fixed income bond fund	—		33	33	—	—	—	
Total Non-bargain VEBA	100	%	\$118	\$ 118	\$ —	\$ —	100	%
Life VEBA:								
Equity Securities:								
U.S. large cap	70	%	\$4	\$ 4	\$ —	\$ —	68	%
Fixed Income Securities:	30	%					32	%
Core fixed income bond fund	—		2	2	—	—	—	
Total Life VEBA	100	%	\$6	\$ 6	\$ —	\$ —	100	%
Total	100	%	\$500	\$ 316	\$ 184	\$ —	100	%

(a) Includes cash for margin requirements.

Valuation Techniques Used to Determine Fair Value

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

Equity securities—For equity securities, the trustees obtain prices from pricing services, whose prices are obtained from direct feeds from market exchanges, that the Company is able to independently corroborate. Equity securities are valued based on quoted prices in active markets and categorized as Level 1. Certain equities, such as international securities held in the pension plan are invested in commingled funds. These funds are valued to reflect the plan fund's interest in the fund based on the reported year-end net asset value. Since net asset value is not directly observable or

not available on a nationally recognized securities exchange for the commingled funds, they are categorized as Level 2.

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Fixed-income securities—The majority of U.S. Treasury securities and government bonds have been categorized as Level 1 because they trade in highly-liquid and transparent markets that the Company can corroborate. The fair values of corporate bonds, mortgage backed securities, certain government bonds and a guaranteed annuity contract are based on evaluated prices that reflect observable market information, such as actual trade information of similar securities, and have been categorized as Level 2 because the valuations are calculated using models which utilize actively traded market data that the Company can corroborate. Certain other guaranteed annuity contracts are categorized as Level 3 because the investments are not publicly quoted. The fund administrator values the fund using the net asset value per fund share, derived from the quoted prices in active markets of the underlying securities. Since these valuation inputs are not highly observable, these contracts have been categorized as Level 3. Exchange-traded future and option positions are reported in accordance with changes in daily variation margins that are settled daily. Exchange-traded options and futures, for which market quotations are readily available, are valued at the last reported sale price or official closing price on the primary market or exchange on which they are traded and are classified as Level 1.

Real estate fund—Real estate fund is valued using the net asset value based on valuation models of underlying securities which generally include significant unobservable inputs that cannot be corroborated using verifiable observable market data. Real estate fund is categorized as Level 3 as the fund uses significant unobservable inputs for fair value measurement.

REITs—REITs are invested in commingled funds. Commingled funds are valued to reflect the plan fund's interest in the fund based on the reported year-end net asset value. Since the net asset value is not directly observable for the commingled funds, they are categorized as Level 2.

The following table provides a rollforward of the changes in the benefit obligation and plan assets for the most recent two years for all plans combined:

	Pension Benefits		Other Benefits	
	2016	2015	2016	2015
Change in benefit obligation:				
Benefit obligation as of January 1,	\$ 1,720	\$ 1,746	\$ 667	\$ 703
Service cost	32	37	12	14
Interest cost	80	74	28	30
Plan participants' contributions	—	—	2	2
Plan amendments	—	—	(156)	—
Actuarial (gain) loss	100	(76)	82	(58)
Settlements	(3)	—	—	—
Gross benefits paid	(65)	(61)	(26)	(26)
Federal subsidy	—	—	1	2
Benefit obligation as of December 31,	\$ 1,864	\$ 1,720	\$ 610	\$ 667
Change in plan assets:				
Fair value of plan assets as of January 1,	\$ 1,376	\$ 1,428	\$ 500	\$ 512
Actual return on plan assets	99	(21)	32	(15)
Employer contributions	36	30	17	27
Plan participants' contributions	—	—	2	2
Settlements	(3)	—	—	—
Benefits paid	(65)	(61)	(26)	(26)
Fair value of plan assets as of December 31,	\$ 1,443	\$ 1,376	\$ 525	\$ 500

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Funded status as of December 31,	\$ (421)	\$ (344)	\$ (85)	\$ (167)
Amounts recognized in the balance sheet consist of:				
Noncurrent asset	\$ —	\$ —	\$ 2	\$ 2
Current liability	(2)	(2)	—	—
Noncurrent liability	(419)	(342)	(87)	(169)
Net amount recognized	\$ (421)	\$ (344)	\$ (85)	\$ (167)

On July 31, 2016, the other postretirement benefit plan was remeasured to reflect an announced plan amendment, which capped benefits for certain non-union plan participants. The remeasurement included a \$156 reduction in future benefits payable to plan participants, and resulted in a \$89 reduction to the net accrued postretirement benefit obligation. The plan amendment will be amortized over 10.2 years, the average future working lifetime to full eligibility age for all plan participants.

The following table provides the components of the Company's accumulated other comprehensive income and regulatory assets that have not been recognized as components of periodic benefit costs as of December 31:

	Pension Benefits		Other Benefits	
	2016	2015	2016	2015
Net actuarial loss	\$466	\$397	\$170	\$97
Prior service cost (credit)	2	3	(158)	(10)
Net amount recognized	\$468	\$400	\$12	\$87
Regulatory assets	\$300	\$258	\$12	\$87
Accumulated other comprehensive income	168	142	—	—
Total	\$468	\$400	\$12	\$87

As of December 31, 2016 and 2015, the projected benefit obligation, accumulated benefit obligation and fair value of plan assets for pension plans with a projected obligation in excess of plan assets were as follows:

	Projected Benefit Obligation Exceeds the Fair Value of Plans' Assets	
	2016	2015
Projected benefit obligation	\$1,864	\$1,721
Fair value of plan assets	1,443	1,376
	Accumulated Benefit Obligation Exceeds the Fair Value of Plans' Assets	
	2016	2015
Accumulated benefit obligation	\$1,722	\$1,584
Fair value of plan assets	1,443	1,376

The accumulated postretirement benefit obligation exceeds plan assets for all of the Company's other postretirement benefit plans.

In August 2006, the Pension Protection Act ("PPA") was signed into law in the U.S. The PPA replaces the funding requirements for defined benefit pension plans by requiring that defined benefit plans contribute to 100% of the current liability funding target over seven years. Defined benefit plans with a funding status of less than 80% of the current liability are defined as being "at risk" and additional funding requirements and benefit restrictions may apply.

The PPA was effective for the 2008 plan year with short-term phase-in provisions for both the funding target and at-risk determination. The Company’s qualified defined benefit plan is currently funded above the at-risk threshold, and therefore the Company expects that the plans will not be subject to the “at risk” funding requirements of the PPA. The Company is proactively monitoring the plan’s funded status and projected contributions under the law to appropriately manage the potential impact on cash requirements.

Minimum funding requirements for the qualified defined benefit pension plan are determined by government regulations and not by accounting pronouncements. The Company plans to contribute amounts at least equal to the greater of the minimum required contributions or the normal cost in 2017 to the qualified pension plans. The Company plans to contribute to its 2017 other postretirement benefit cost for rate-making purposes.

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

	Pension Benefits	Other Benefits
2017 expected employer contributions		
To plan trusts	\$ 40	\$ 6
To plan participants	2	—

The Company made 2017 contributions to fund pension benefits and other benefits of \$10 and \$1, respectively, through February 2017.

The following table reflects the net benefits expected to be paid from the plan assets or the Company's assets:

	Pension Benefits Expected Benefit Payments	Other Benefits Expected Benefit Payments	Federal Subsidy Payments
2017	\$ 71	\$29	\$ 2
2018	76	31	2
2019	82	33	2
2020	89	34	2
2021	94	35	2
2022-2026	551	194	12

Because the above amounts are net benefits, plan participants' contributions have been excluded from the expected benefits.

Accounting for pensions and other postretirement benefits requires an extensive use of assumptions about the discount rate, expected return on plan assets, the rate of future compensation increases received by the Company's employees, mortality, turnover and medical costs. Each assumption is reviewed annually. The assumptions are selected to represent the average expected experience over time and may differ in any one year from actual experience due to changes in capital markets and the overall economy. These differences will impact the amount of pension and other postretirement benefit expense that the Company recognizes.

The significant assumptions related to the Company's pension and other postretirement benefit plans were as follows:

	Pension Benefits			Other Benefits		
	2016	2015	2014	2016	2015	2014
Weighted-average assumptions used to determine December 31 benefit obligations						
Discount rate	4.28%	4.66%	4.24%	4.26%	4.67%	4.24%
Rate of compensation increase	3.07%	3.10%	3.12%	N/A	N/A	N/A
Medical trend	N/A	N/A	N/A	graded from 7.00% in 2016 to 5.00%	graded from 6.50% in 2015 to 5.00% in 2021+	graded from 6.75% in 2014 to 5.00% in 2021+

in 2021+

Weighted-average assumptions						
used to determine net						
periodic cost						
Discount rate	4.66%	4.24%	5.12%	3.66%	4.24%	5.10%
Expected return on plan assets	7.02%	6.91%	6.91%	5.37%	4.92%	5.87%
Rate of compensation increase	3.10%	3.12%	3.15%	N/A	N/A	N/A
Medical trend	N/A	N/A	N/A	graded from	graded from	graded from
				6.50% in 2016	6.75% in 2015	7.00% in 2014
				to	5.00% to	5.00% to
				5.00% in 2021+	5.00% in 2021+	5.00% in 2019+

N/A—Assumption is not

applicable.

The discount rate assumption was determined for the pension and postretirement benefit plans independently. At year-end 2011, the Company began using an approach that approximates the process of settlement of obligations tailored to the plans' expected cash flows by matching the plans' cash flows to the coupons and expected maturity values of individually selected bonds. The yield curve was developed for a universe containing the majority of U.S.-issued AA-graded corporate bonds, all of which were non-callable (or callable with make-whole provisions). Historically, for each plan, the discount rate was developed as the level equivalent rate that would produce the same present value as that using spot rates aligned with the projected benefit payments.

The expected long-term rate of return on plan assets is based on historical and projected rates of return, prior to administrative and investment management fees, for current and planned asset classes in the plans' investment portfolios. Assumed projected rates of return for each of the plans' projected asset classes were selected after analyzing historical experience and future expectations of the returns and volatility of the various asset classes. Based on the target asset allocation for each asset class, the overall expected rate of return for the portfolio was developed, adjusted for historical and expected experience of active portfolio management results compared to the benchmark returns and for the effect of expenses paid from plan assets. The Company's pension expense increases as the expected return on assets decreases. The Company used an expected return on plan assets of 6.49% to estimate its 2017 pension benefit costs, and an expected blended return based on weighted assets of 5.09% to estimate its 2017 other postretirement benefit costs.

In the determination of year end 2014 projected benefit plan obligations, the Company adopted a new table based on the Society of Actuaries RP 2014 mortality table including a generational BB-2D projection scale. The adoption resulted in a significant increase to pension and other postretirement benefit plans' projected benefit obligations. In 2015 a new RP 2015 mortality table was issued. All of the experience upon which the table is based was considered by the Company in selecting its 2014 assumptions.

Assumed health care cost trend rates have a significant effect on the amounts reported for the other postretirement benefit plans. The health care cost trend rate is based on historical rates and expected market conditions. A one-percentage-point change in assumed health care cost trend rates would have the following effects:

	One-Percentage-Point Increase	One-Percentage-Point Decrease
Effect on total of service and interest cost components	\$ 7	\$ (6)
Effect on other postretirement benefit obligation	\$ 74	\$ (61)

The following table provides the components of net periodic benefit costs for the years ended December 31:

	2016	2015	2014
Components of net periodic pension benefit cost			
Service cost	\$32	\$37	\$32
Interest cost	80	74	76
Expected return on plan assets	(95)	(97)	(95)
Amortization of:			
Prior service cost (credit)	1	1	1
Actuarial (gain) loss	27	25	—
Net periodic pension benefit cost	\$45	\$40	\$14
Other changes in plan assets and benefit obligations recognized in other comprehensive income			
Amortization of prior service credit (cost)	\$—	\$—	\$—
Current year actuarial (gain) loss	21	10	46

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Amortization of actuarial gain (loss)	(6)	(5)	—
Total recognized in other comprehensive income	\$15	\$5	\$46
Total recognized in net periodic benefit cost and comprehensive income	\$60	\$45	\$60
Components of net periodic other postretirement benefit cost			
Service cost	\$12	\$14	\$11
Interest cost	28	30	29
Expected return on plan assets	(27)	(26)	(28)
Amortization of:			
Prior service cost (credit)	(9)	(2)	(2)
Actuarial (gain) loss	5	5	—
Net periodic other postretirement benefit cost	\$9	\$21	\$10

The Company's policy is to recognize curtailments when the total expected future service of plan participants is reduced by greater than 10% due to an event that results in terminations and/or retirements.

Cumulative gains and losses that are in excess of 10% of the greater of either the projected benefit obligation or the fair value of plan assets are amortized over the expected average remaining future service of the current active membership for the plans.

The estimated amounts that will be amortized from accumulated other comprehensive income and regulatory assets into net periodic benefit cost in 2017 are as follows:

	Pension Benefits	Other Benefits
Actuarial (gain) loss	\$ 34	\$ 10
Prior service cost (credit)	1	(18)
Total	\$ 35	\$ (8)

Savings Plans for Employees

The Company maintains 401(k) savings plans that allow employees to save for retirement on a tax-deferred basis. Employees can make contributions that are invested at their direction in one or more funds. The Company makes matching contributions based on a percentage of an employee's contribution, subject to certain limitations. Due to the Company's discontinuing new entrants into the defined benefit pension plan, on January 1, 2006 the Company began providing an additional 5.25% of base pay defined contribution benefit for union employees hired on or after January 1, 2001 and non-union employees hired on or after January 1, 2006. Plan expenses totaled \$9, \$9 and \$8 for 2016, 2015 and 2014, respectively. All of the Company's contributions are invested in one or more funds at the direction of the employees.

Note 15: Commitments and Contingencies

Commitments have been made in connection with certain construction programs. The estimated capital expenditures required under legal and binding contractual obligations amounted to \$469 as of December 31, 2016.

The Company's regulated subsidiaries maintain agreements with other water purveyors for the purchase of water to supplement their water supply. The future annual commitments related to minimum quantities of purchased water having non-cancelable terms are as follows:

Year	Amount
2017	\$ 56
2018	58
2019	64
2020	64
2021	65
Thereafter	735

The Company enters into agreements for the provision of services to water and wastewater facilities for the United States military, municipalities and other customers. The Company's military agreements expire between 2051 and 2065 and have remaining performance commitments as measured by estimated remaining contract revenue of \$3,143 as of December 31, 2016. The military agreements are subject to customary termination provisions held by the U.S. Federal Government prior to the agreed upon contract expiration. The Company's O&M agreements with municipalities and other customers expire between 2017 and 2048 and have remaining performance commitments as measured by estimated remaining contract revenue of \$794 as of December 31, 2016. Some of the Company's long-term contracts to operate and maintain a municipality's, federal government's or other party's water or wastewater treatment and delivery facilities include responsibility for certain maintenance for some of those facilities, in exchange for an annual fee. Unless specifically required to perform certain maintenance activities, the maintenance costs are recognized when the maintenance is performed.

Contingencies

The Company is routinely involved in legal actions incident to the normal conduct of its business. As of December 31, 2016, the Company has accrued approximately \$138 of probable loss contingencies and has estimated that the maximum amount of losses associated with reasonably possible loss contingencies that can be reasonably estimated is \$51. For certain matters, claims and actions, the Company is unable to estimate possible losses. The Company believes that damages or settlements, if any, recovered by plaintiffs in such matters, claims or actions, other than as described in this Note 15, will not have a material adverse effect on the Company.

West Virginia Elk River Freedom Industries Chemical Spill

On January 9, 2014, a chemical storage tank owned by Freedom Industries, Inc. leaked two substances, 4-methylcyclohexane methanol, or MCHM, and PPH/DiPPH, a mix of polyglycol ethers, into the Elk River near the West Virginia-American Water Company (“WVAWC”) treatment plant intake in Charleston, West Virginia. After having been alerted to the leak of MCHM by the West Virginia Department of Environmental Protection (“DEP”), WVAWC took immediate steps to gather more information about MCHM, augment its treatment process as a precaution, and begin consultations with federal, state and local public health officials. As soon as possible after it was determined that the augmented treatment process would not fully remove the MCHM, a joint decision was reached in consultation with the West Virginia Bureau for Public Health to issue a “Do Not Use” order for all of its approximately 93,000 customer accounts in parts of nine West Virginia counties served by the Charleston treatment plant. By January 18, 2014, none of WVAWC’s customers were subject to the Do Not Use order.

Following the Freedom Industries chemical spill, numerous lawsuits were filed against WVAWC and certain other Company affiliated entities (collectively, the “American Water Defendants”) with respect to this matter in the U.S. District Court for the Southern District of West Virginia or West Virginia Circuit Courts in Kanawha, Boone and Putnam counties, and to date, 73 cases remain pending. Four of the cases pending before the U.S. district court were consolidated for purposes of discovery, and an amended consolidated class action complaint for those cases (the “Federal action”) was filed in December 2014 by several plaintiffs. On January 28, 2016, all of the then-filed state court cases were referred to West Virginia’s Mass Litigation Panel for further proceedings, which have been stayed pending the negotiation by the parties and approval by the court in the Federal action of a global agreement to settle all of such cases, as described below. On July 7, 2016, the court in the Federal action scheduled trial to begin on October 25, 2016, but the court delayed the start of the trial pending ongoing settlement negotiations between the parties and has since granted a continuance of the trial until March 21, 2017. The Mass Litigation Panel has also stayed its proceedings until May 1, 2017.

WVAWC Binding Global Agreement in Principle to Settle Claims

On October 31, 2016, the court in the Federal action approved the preliminary principles, terms and conditions of a binding global agreement in principle to settle claims (the “Settlement”) among the American Water Defendants, and all class members, putative class members, claimants and potential claimants (collectively, the “Plaintiffs”), arising out of the Freedom Industries chemical spill. The terms of the Settlement propose a global federal and state resolution of all litigation and potential claims against the American Water Defendants and their insurers. A claimant may elect to opt out of any final settlement agreement, in which case such claimant will not receive any benefit from or be bound by the terms of the Settlement. Under the terms and conditions of the Settlement and any subsequent final settlement agreement, the American Water Defendants have not admitted, and will not admit, any fault or liability for any of the allegations made by the Plaintiffs in any of the actions to be resolved.

The proposed aggregate pre-tax amount of the Settlement is \$126, of which \$65 would be contributed by WVAWC, and the remainder would be contributed by certain of the Company’s general liability insurance carriers. The Company has general liability insurance under a series of policies underwritten by a number of individual carriers. Two of these insurance carriers, which provide an aggregate of \$50 in insurance coverage to the Company under these policies, were requested, but presently have not agreed, to participate in the Settlement. The Company and WVAWC are vigorously pursuing their rights to insurance coverage from these non-participating carriers for any contributions by WVAWC to the Settlement. In this regard, WVAWC filed a lawsuit against one of these carriers alleging that the carrier’s failure to agree to participate in the Settlement constitutes a breach of contract, and the Company is pursuing mandatory arbitration against the other non-participating carrier.

The preliminary terms of the Settlement intend to establish a two-tier settlement fund for the payment of claims, comprised of (i) a simple claim fund, which is also referred to as the “guaranteed fund,” of \$76, of which \$51 will be contributed by WVAWC, including insurance deductibles, and \$25 would be contributed by one of the Company’s general liability insurance carriers, and (ii) an individual review claim fund of up to \$50, of which up to \$14 would be contributed by WVAWC and \$36 would be contributed by a number of the Company’s general liability insurance carriers. Separately, up to \$25 would be contributed to the guaranteed fund by another defendant to the Settlement.

As a result of these events, the Company recorded a charge to earnings, net of insurance receivables, of \$65 (\$39 after-tax) in the third quarter of 2016. The settlement amount of \$126 is reflected in Accrued Liabilities and the offsetting insurance receivable is reflected in Other Current Assets in the Consolidated Balance Sheet as of December 31, 2016. The Company intends to fund WVAWC’s contributions to the Settlement through existing sources of liquidity, although no contribution by WVAWC will be required unless and until the terms of the Settlement are finally approved by the court in the Federal action. Furthermore, under the terms of the Settlement, WVAWC has agreed that it will not seek rate recovery from the Public Service Commission of West Virginia for approximately \$4 in direct response costs expensed in 2014 by WVAWC relating to the Freedom Industries chemical spill as well as for amounts paid by WVAWC under the Settlement.

The Company's insurance policies operate under a layered structure where coverage is generally provided in the upper layers after claims have exhausted lower layers of coverage. The \$36 to be contributed by a number of the Company's general liability insurance carriers to the individual review claim fund, as noted above, is from higher layers of the insurance structure than the two insurance carriers that were requested, but presently have not agreed, to participate in the Settlement. Any recovery by WVAWC or the Company from the non-participating carriers would reimburse WVAWC for its contributions to the guaranteed fund.

Following the court's October 31 approval, the parties have continued to negotiate the details of the Settlement. If preliminary approval of the Settlement is obtained, notice of the terms of the Settlement would then be provided to members of the settlement class. Following the notice period, the court in the Federal action would hold a fairness hearing to consider final approval of the Settlement.

Other Related Investigations

Additionally, investigations with respect to the matter have been initiated by the U.S. Chemical Safety and Hazard Investigation Board (the "CSB"), the U.S. Attorney's Office for the Southern District of West Virginia, the West Virginia Attorney General, and the Public Service Commission of West Virginia (the "PSC"). As a result of the U.S. Attorney's Office investigation, Freedom Industries and six former Freedom Industries employees (three of whom also were former owners of Freedom Industries), pled guilty to violations of the federal Clean Water Act.

In May 2014, the PSC issued an Order initiating a General Investigation into certain matters relating to WVAWC's response to the Freedom Industries chemical spill. Three parties intervened in the proceeding, including the Consumer Advocate Division of the PSC and two attorney-sponsored groups, including one sponsored by some of the plaintiffs' counsel involved in the civil litigation described above. On January 26, 2017, WVAWC and the other parties agreed to resolve the General Investigation and filed a joint stipulation with the PSC containing the terms of the settlement. The parties to the joint stipulation filed a proposed order with the PSC on February 8, 2017.

The CSB is an independent investigatory agency with no regulatory mandate or ability to issue fines or citations; rather, the CSB can only issue recommendations for further action. In response to the Freedom Industries chemical spill, the CSB commenced an investigation shortly thereafter. On September 28, 2016, the CSB issued and adopted its investigation report in which it recommended that the Company conduct additional source water protection activities. The Company provided written comments to the CSB's report suggesting that the recommendation made to the Company would be better directed to the U.S. Environmental Protection Agency in order to promote industry-wide implementation of the CSB's recommendation. On February 15, 2017, the Company filed a response to the CSB's recommendation. The CSB has indicated that it may consider issuing a supplemental report on the Freedom Industries chemical spill.

Missouri Infrastructure System Replacement Surcharge Litigation

On March 8, 2016, the Western District of the Missouri Court of Appeals ruled that the Missouri Public Service Commission ("MoPSC") did not have statutory authority to issue an order in June 2015 approving an infrastructure system replacement surcharge ("ISRS") for Missouri-American Water Company ("MAWC"), a wholly owned subsidiary of the Company. The court held that the MoPSC's June 2015 order authorizing the ISRS increase was invalid because St. Louis County did not have a population of at least one million residents, as required by the statute. MAWC believes that the MoPSC's June 2015 order authorizing the collection of ISRS revenues was lawful and will continue to challenge the ruling of the Court of Appeals. On June 28, 2016, the Missouri Supreme Court granted MAWC's application to transfer the case from the Court of Appeals to the Missouri Supreme Court, and as a result of that order, the March 8, 2016 ruling of the Court of Appeals has been vacated. Oral argument in this case was heard on November 1, 2016. As of December 31, 2016, the Company has determined the range of reasonably possible loss

associated with this matter to be zero to \$26.

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Note 16: Earnings per Common Share

The following is a reconciliation of the numerator and denominator for basic and diluted earnings per share (“EPS”) calculations for the years ended December 31:

	2016	2015	2014
Numerator			
Income from continuing operations	\$468	\$476	\$430
Loss from discontinued operations, net of tax	—	—	(7)
Net income attributable to common stockholders	\$468	\$476	\$423
Denominator			
Weighted average common shares outstanding—Basic	178	179	179
Effect of dilutive common stock equivalents	1	1	1
Weighted average common shares outstanding—Diluted	179	180	180

The effect of dilutive common stock equivalents is related to the RSUs and stock options granted under the 2007 Plan, and shares purchased under the ESPP. Less than one million share-based awards were excluded from the computation of diluted EPS for the years ended December 31, 2016, 2015 and 2014 because their effect would have been anti-dilutive under the treasury stock method.

Note 17: Fair Values of Financial Instruments

The following methods and assumptions were used by the Company in estimating its fair value disclosures for financial instruments:

Current assets and current liabilities—The carrying amounts reported in the Consolidated Balance Sheets for current assets and current liabilities, including revolving credit debt, due to the short-term maturities and variable interest rates, approximate their fair values.

Preferred stock with mandatory redemption requirements and long-term debt—The fair values of preferred stock with mandatory redemption requirements and long-term debt are categorized within the fair value hierarchy based on the inputs that are used to value each instrument. The fair value of long-term debt classified as Level 1 is calculated using quoted prices in active markets. Level 2 instruments are valued using observable inputs and Level 3 instruments are valued using observable and unobservable inputs. The fair values of instruments classified as Level 2 and 3 are determined by a valuation model that is based on a conventional discounted cash flow methodology and utilizes assumptions of current market rates. As a majority of the Company’s debts do not trade in active markets, the Company calculated a base yield curve using a risk-free rate (a U.S. Treasury securities yield curve) plus a credit spread that is based on the following two factors: an average of the Company’s own publicly-traded debt securities and the current market rates for U.S. Utility A debt securities. The Company used these yield curve assumptions to derive a base yield for the Level 2 and Level 3 securities. Additionally, the Company adjusted the base yield for specific features of the debt securities including call features, coupon tax treatment and collateral for the Level 3 instruments.

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The carrying amounts, including fair value adjustments previously recognized in acquisition purchase accounting and a fair value adjustment related to the Company's interest rate swap fair value hedge (which is classified as Level 2 in the fair value hierarchy), and fair values of the financial instruments were as follows:

	Carrying Amount	December 31, 2016			Total
		Level 1	Level 2	Level 3	
Preferred stock with mandatory redemption requirements	\$ 12	\$—	\$—	\$ 15	\$ 15
Long-term debt (excluding capital lease obligations)	6,320	3,876	1,363	1,805	7,044

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	Carrying Amount	December 31, 2015			Total
		Level 1	Level 2	Level 3	
Preferred stock with mandatory redemption requirements	\$ 13	\$—	\$—	\$ 18	\$ 18
Long-term debt (excluding capital lease obligations)	5,914	3,397	1,419	1,941	6,757

Fair Value Measurements

To increase consistency and comparability in fair value measurements, GAAP establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three levels as follows:

Level 1—quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access as of the reporting date. Financial assets and liabilities utilizing Level 1 inputs include active exchange-traded equity securities, exchange-based derivatives, mutual funds and money market funds.

Level 2—inputs other than quoted prices included within Level 1 that are directly observable for the asset or liability or indirectly observable through corroboration with observable market data. Financial assets and liabilities utilizing Level 2 inputs include fixed income securities, non-exchange-based derivatives, commingled investment funds not subject to purchase and sale restrictions and fair-value hedges.

Level 3—unobservable inputs, such as internally-developed pricing models for the asset or liability due to little or no market activity for the asset or liability. Financial assets and liabilities utilizing Level 3 inputs include infrequently-traded non-exchange-based derivatives and commingled investment funds subject to purchase and sale restrictions.

Recurring Fair Value Measurements

The following table presents assets and liabilities measured and recorded at fair value on a recurring basis and their level within the fair value hierarchy as of December 31, 2016 and 2015, respectively:

	December 31, 2016			Total
	Level 1	Level 2	Level 3	
Assets				
Restricted funds	\$24	\$ —	\$ —	\$ 24
Rabbi trust investments	12	—	—	12
Deposits	3	—	—	3
Mark-to-market derivative asset	—	28	—	28
Other investments	1	—	—	1
Total assets	40	28	—	68

Liabilities				
Deferred compensation obligation	13	—	—	13
Mark-to-market derivative liability	—	—	—	-
Total liabilities	13	—	—	13
Total net assets (liabilities)	\$27	\$ 28	\$ —	\$ 55

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	December 31, 2015			Total
	Level 1	Level 2	Level 3	
Assets				
Restricted funds	\$27	\$ —	\$ —	\$ 27
Rabbi trust investments	12	—	—	12
Deposits	1	—	—	1
Mark-to-market derivative asset	—	2	—	2
Other investments	4	—	—	4
Total assets	44	2	—	46
Liabilities				
Deferred compensation obligation	11	—	—	11
Mark-to-market derivative liability	—	1	—	1
Total liabilities	11	1	—	12
Total net assets (liabilities)	\$33	\$ 1	\$ —	\$ 34

Restricted funds—The Company’s restricted funds primarily represent proceeds received from financings for the construction and capital improvement of facilities and from customers for future services under operations and maintenance projects. The proceeds of these financings are held in escrow until the designated expenditures are incurred. Long-term restricted funds of \$4 and \$6 were included in other long-term assets as of December 31, 2016 and 2015, respectively.

Rabbi trust investments—The Company’s rabbi trust investments consist of equity and index funds from which supplemental executive retirement plan benefits and deferred compensation obligations can be paid. The Company includes these assets in other long-term assets.

Deposits—Deposits include escrow funds and certain other deposits held in trust. The Company includes cash deposits in other current assets.

Deferred compensation obligations—The Company’s deferred compensation plans allow participants to defer certain cash compensation into notional investment accounts. The Company includes such plans in other long-term liabilities. The value of the Company’s deferred compensation obligations is based on the market value of the participants’ notional investment accounts. The notional investments are comprised primarily of mutual funds, which are based on observable market prices.

Mark-to-market derivative asset and liability—The Company utilizes fixed-to-floating interest-rate swaps, typically designated as fair-value hedges, to achieve a targeted level of variable-rate debt as a percentage of total debt. The Company also employs derivative financial instruments in the form of variable-to-fixed interest rate swaps and forward starting interest rate swaps, classified as economic hedges and cash flow hedges, respectively, in order to fix the interest cost on existing or forecasted debt. The Company uses a calculation of future cash inflows and estimated future outflows, which are discounted, to determine the current fair value. Additional inputs to the present value calculation include the contract terms, counterparty credit risk, interest rates and market volatility.

Other investments—Other investments primarily represent money market funds used for active employee benefits. The Company includes other investments in other current assets.

Note 18: Leases

The Company has entered into operating leases involving certain facilities and equipment. Rental expenses under operating leases were \$24 for 2016, \$21 for 2015 and \$22 for 2014. The operating leases for facilities will expire over the next 25 years and the operating leases for equipment will expire over the next five years. Certain operating leases have renewal options ranging from one to five years.

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The minimum annual future rental commitment under operating leases that have initial or remaining non-cancelable lease terms over the next five years and thereafter are as follows:

Year	Amount
2017	\$ 14
2018	12
2019	11
2020	9
2021	6
Thereafter	70

The Company has a series of agreements with various public entities (the “Partners”) to establish certain joint ventures, commonly referred to as “public-private partnerships.” Under the public-private partnerships, the Company constructed utility plant, financed by the Company and the Partners constructed utility plant (connected to the Company’s property), financed by the Partners. The Company agreed to transfer and convey some of its real and personal property to the Partners in exchange for an equal principal amount of Industrial Development Bonds (“IDBs”), issued by the Partners under a state Industrial Development Bond and Commercial Development Act. The Company leased back the total facilities, including portions funded by both the Company and the Partners, under leases for a period of 40 years.

The leases related to the portion of the facilities funded by the Company have required payments from the Company to the Partners that approximate the payments required by the terms of the IDBs from the Partners to the Company (as the holder of the IDBs). As the ownership of the portion of the facilities constructed by the Company will revert back to the Company at the end of the lease, the Company has recorded these as capital leases. The lease obligation and the receivable for the principal amount of the IDBs are presented by the Company on a net basis. The gross cost of the facilities funded by the Company recognized as a capital lease asset was \$152 and \$156 as of December 31, 2016 and 2015, respectively, which is presented in property, plant and equipment in the accompanying Consolidated Balance Sheets. The future payments under the lease obligations are equal to and offset by the payments receivable under the IDBs.

As of December 31, 2016, the minimum annual future rental commitment under the operating leases for the portion of the facilities funded by the Partners that have initial or remaining non-cancelable lease terms in excess of one year included in the preceding minimum annual rental commitments are \$4 in 2017 through 2021, and \$66 thereafter.

Note 19: Segment Information

The Company’s operating segments are comprised of the revenue-generating components of its businesses for which separate financial information is internally produced and regularly used by management to make operating decisions and assess performance. The Company operates its businesses primarily through one reportable segment, the Regulated Businesses segment. The Company also operates businesses that provide a broad range of related and complementary water and wastewater services in non-regulated markets, which includes four operating segments that individually do not meet the criteria of a reportable segment. These four non-reportable operating segments are

collectively presented as our “Market-Based Businesses”.

The Regulated Businesses segment is the largest component of the Company’s business and includes 18 subsidiaries that provide water and wastewater services to customers in 16 states.

The Market-Based Businesses’ four non-reportable operating segments are Military Services Group, Contract Operations Group, Homeowner Services Group and Keystone Operations. Military Services Group performs 50-year contracts with the U.S. Department of Defense for the operation and maintenance of the water and wastewater systems on certain military bases. Homeowner Services Group provides services to domestic homeowners and smaller commercial establishments to protect against the cost of repairing damaged or blocked pipes inside and outside their accommodations, as well as interior electric lines. Contract Operations Group performs contracts with municipalities, the food and beverage industry and other customers to operate and maintain water and wastewater facilities. Keystone Operations provides customized water sourcing, transfer services, pipeline construction, water and equipment hauling and water storage solutions, for natural gas exploration and production companies.

The accounting policies of the segments are the same as those described in the summary of significant accounting policies. See Note 2—Significant Accounting Policies. The Regulated Businesses segment and Market-Based Businesses include intercompany costs that are allocated by American Water Works Service Company, Inc. and intercompany interest that is charged by American Water Capital Corp., which are eliminated to reconcile to the consolidated results of operations. Inter-segment revenues, include the

sale of water from a regulated subsidiary to market-based subsidiaries, leased office space, furniture and equipment provided by the Company's market-based subsidiaries to its regulated subsidiaries. "Other" includes corporate costs that are not allocated to the Company's operating segments, eliminations of inter-segment transactions, fair value adjustments and associated income and deductions related to the acquisitions that have not been allocated to the operating segments for evaluation of performance and allocation of resource purposes. The adjustments related to the acquisitions are reported in Other as they are excluded from segment performance measures evaluated by management.

The following tables include the Company's summarized segment information as of and for the years ended December 31:

	2016			
	Regulated		Market-Based	
	Businesses	Businesses	Other	Consolidated
Operating revenues	\$2,871	\$ 451	\$(20)	\$ 3,302
Depreciation and amortization	440	15	15	470
Total operating expenses, net	1,852	391	(21)	2,222
Interest, net	256	(2)	71	325
Income from continuing operations before				
income taxes	775	65	(70)	770
Provision for income taxes	303	26	(27)	302
Net income attributable to common stockholders	472	39	(43)	468
Total assets	16,405	637	1,440	18,482
Capital expenditures	1,274	18	19	1,311

	2015			
	Regulated		Market-Based	
	Businesses	Businesses	Other	Consolidated
Operating revenues	\$2,743	\$ 434	\$(18)	\$ 3,159
Depreciation and amortization	411	8	21	440
Total operating expenses, net	1,732	370	(18)	2,084
Interest, net	248	(2)	62	308
Income from continuing operations before				
income taxes	776	68	(62)	782
Provision for income taxes	303	26	(23)	306
Net income attributable to common stockholders	473	42	(39)	476
Total assets	15,258	496	1,487	17,241
Capital expenditures	1,143	17	—	1,160

	2014			
	Regulated		Market-Based	
	Businesses	Businesses	Other	Consolidated

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Operating revenues	\$2,674	\$ 355	\$(18)	\$ 3,011
Depreciation and amortization	394	6	24	424
Total operating expenses, net	1,726	300	(18)	2,008
Interest, net	248	(2)	53	299
Income from continuing operations before				
income taxes	707	58	(55)	710
Provision for income taxes	273	18	(11)	280
Income from continuing operations	434	40	(44)	430
Loss from discontinued operations, net of tax	—	(7)	—	(7)
Net income attributable to common stockholders	434	33	(44)	423
Total assets	14,343	314	1,381	16,038
Capital expenditures	946	10	—	956

Note 20: Unaudited Quarterly Data

The following table summarizes certain supplemental unaudited consolidated quarterly financial data for each of the four quarters in the years ended December 31, 2016 and 2015, respectively. The operating results for any quarter are not indicative of results that may be expected for a full year or any future periods.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2016				
	(In millions, except per share data)			
Operating revenues	\$ 743	\$ 827	\$ 930	\$ 802
Operating income	214	299	319	248
Net income attributable to common stockholders	82	137	148	101
Basic earnings per share:				
Net income attributable to common stockholders	0.46	0.77	0.83	0.57
Diluted earnings per share:				
Net income attributable to common stockholders	0.46	0.77	0.83	0.57
2015				
	(In millions, except per share data)			
Operating revenues	\$ 698	\$ 782	\$ 896	\$ 783
Operating income	204	278	361	232
Net income attributable to common stockholders	80	123	174	99
Basic earnings per share:				
Net income attributable to common stockholders	0.45	0.69	0.97	0.55
Diluted earnings per share:				
Net income attributable to common stockholders	0.44	0.68	0.96	0.55

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

The Company, under the supervision and with the participation of its management, including the Chief Executive Officer and the Chief Financial Officer, conducted an evaluation of the effectiveness of the design and operation of the Company's disclosure controls and procedures as such term is defined in Rule 13a-15(e) and Rule 15d-15(e) under the Exchange Act as of the end of the period covered by this report.

Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2016, our disclosure controls and procedures were effective at a reasonable level of assurance. Our

disclosure controls and procedures are designed to provide reasonable assurance that the information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act. Our internal control over financial reporting is a process designed by or under the supervision of our Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management, including our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting, as of December 31, 2016, using the criteria described in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Based on our evaluation under the framework in Internal Control—Integrated Framework (2013), our management concluded that our internal control over financial reporting was effective as of December 31, 2016.

The effectiveness of our internal control over financial reporting as of December 31, 2016 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report appearing in Item 8—Financial Statements and Supplementary Data of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes to our internal control over financial reporting during our last fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item and not given below or in Item 1—Business—Executive Officers of this Form 10-K, is incorporated by reference from the Company’s Proxy Statement for the 2017 Annual Meeting of Stockholders, to be filed with the SEC within 120 days following the end of the fiscal year covered by this report, under the captions entitled “Board of Directors and Corporate Governance,” “Proposal 1—Election of Directors” and “Certain Beneficial Ownership Matters—Section 16(a) Beneficial Ownership Reporting Compliance.”

We have adopted a Code of Ethics, which applies to directors, officers and employees. The full text of the Code of Ethics is publicly available on our website at <https://amwater.com>. We intend to post on our website any amendments to our Code of Ethics and any waivers of such provisions granted to certain principal officers.

ITEM 11. EXECUTIVE COMPENSATION

Information required by this item is incorporated by reference in the Company’s Proxy Statement for the 2017 Annual Meeting of Stockholders, under the captions entitled “Executive Compensation,” “Compensation Discussion and Analysis,” “Compensation Committee Interlocks and Insider Participation,” “Compensation Committee Report,” “Proposal 1—Election of Directors—Director Compensation” and “Proposal 1—Election of Directors—Director Compensation Table.”

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information required by this item setting forth the security ownership of certain beneficial owners and management is incorporated by reference in the Company’s Proxy Statement for the 2017 Annual Meeting of Stockholders, under the captions entitled “Certain Beneficial Ownership Matters—Security Ownership of Management,” “Certain Beneficial Ownership Matters—Security Ownership of Certain Beneficial Owners” and “Equity Compensation Plan Information.”

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information required by this item is incorporated by reference in the Company’s Proxy Statement for the 2017 Annual Meeting of Stockholders, under the caption entitled “Proposal 1—Election of Directors—Director Independence.”

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information required by this item is incorporated by reference in the Company’s Proxy Statement for the 2017 Annual Meeting of Stockholders, under the caption entitled “Fees Paid to Independent Registered Public Accounting Firm” and “Policy on the Approval of Services Provided by Independent Registered Public Accounting Firm.”

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents have been filed as a part of this Form 10-K:

1. The financial statements listed in the “Index to Consolidated Financial Statements” contained in Item 8— “Financial Statements and Supplementary Data” of this Form 10-K are hereby incorporated by reference in response to this Item 15(a).
- 2.

Financial statement schedules have been omitted since they are either not required or are not applicable as the information is otherwise included in the financial statements or notes thereto.

3. Exhibits. The list of documents contained in “Exhibit Index” to this Form 10-K is incorporated by reference in response to this Item 15(a). The warranties, representations and covenants contained in any of the agreements included or incorporated by reference herein or which appear as exhibits hereto should not be relied upon by buyers, sellers or holders of the Company’s or its subsidiaries’ securities and are not intended as warranties, representations or covenants to any individual or entity except as specifically set forth in such agreement. The responses to Items 15(b) and (c) of Form 10-K are included above in response to Item 15(a).

ITEM 16. FORM 10-K SUMMARY

None

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 21st day of February, 2017.

AMERICAN WATER WORKS COMPANY, INC.

BY: /s/ SUSAN N. STORY
Susan N. Story
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed on the 21st day of February, 2017, by the following persons in the capacities indicated.

/s/ SUSAN N. STORY
Susan N. Story

President and Chief Executive Officer

(Principal Executive Officer and Director)

/s/ JULIE A. DOBSON
Julie A. Dobson

(Director)

/s/ LINDA G. SULLIVAN
Linda G. Sullivan

Executive Vice President and Chief Financial Officer (Director)

(Principal Financial Officer)

/s/ PAUL J. EVANSON
Paul J. Evanson

(Director)

/s/ MELISSA K. WIKLE
Melissa K. Wikle

Vice President and Controller

(Principal Accounting Officer)

/s/ VERONICA M. HAGEN
Veronica M. Hagen

(Director)

/s/ GEORGE MacKENZIE
George MacKenzie

(Director)

/s/ JULIA L. JOHNSON
Julia L. Johnson

(Director)

/s/ MARTHA CLARK GOSS
Martha Clark Goss

(Director)

/s/ KARL F. KURZ
Karl F. Kurz

(Director)

EXHIBIT INDEX

Exhibit

Number Exhibit Description

- 3.1 Restated Certificate of Incorporation of American Water Works Company, Inc. (incorporated by reference to Exhibit 3.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed November 6, 2008).
- 3.2 Amended and Restated Bylaws of American Water Works Company, Inc. (incorporated by reference to Exhibit 3.2 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 5, 2015).
- 4.1 Indenture, dated as of October 22, 2007 between American Water Capital Corp. and Wells Fargo Bank, National Association (incorporated by reference to Exhibit 4.4 to American Water Capital Corp.'s Registration Statement on Form S-4, File No. 333-148284, and American Water Works Company, Inc.'s Registration Statement on Form S-4, File No. 333-148284-01, filed December 21, 2007).
- 4.2 Indenture, dated as of December 4, 2009, between American Water Capital Corp. and Wells Fargo Bank, National Association (incorporated by reference to Exhibit 4.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed December 3, 2010).
- 4.3 Officers' Certificate, dated December 15, 2010, establishing the 6.00% Senior Monthly Notes due 2040 (incorporated by reference to Exhibit 4.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed December 15, 2010).
- 4.4 Officers' Certificate, dated December 17, 2012, establishing the 4.300% Senior Notes due 2042 (incorporated by reference to Exhibit 4.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed December 17, 2012).
- 4.5 Officers' Certificate, dated November 20, 2013, establishing the 3.850% Senior Notes due 2024 (incorporated by reference to Exhibit 4.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed November 20, 2013).
- 4.6 Officers' Certificate, dated August 14, 2014, establishing the 3.400% Senior Notes due 2024 (incorporated by reference to Exhibit 4.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed August 14, 2014).
- 4.7 Officers' Certificate, dated August 14, 2014, providing for a further issuance of the 4.300% Senior Notes 2042 (incorporated by reference to Exhibit 4.3 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed August 14, 2014).
- 4.8 Officers' Certificate, dated August 13, 2015, establishing the 4.300% Senior Notes due 2045 (incorporated by reference to Exhibit 4.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed August 13, 2015).
- 4.9

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Officers' Certificate, dated August 13, 2015, providing for a further issuance of the 3.400% Senior Notes due 2025 (incorporated by reference to Exhibit 4.3 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed August 13, 2015).

- 4.10 Officers' Certificate, dated November 17, 2016, establishing the 3.000% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed November 17, 2016).
- 4.11 Officers' Certificate, dated November 17, 2016, establishing the 4.000% Senior Notes due 2046 (incorporated by reference to Exhibit 4.2 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed November 17, 2016).
- 4.12 Note Purchase Agreement, as amended, dated December 21, 2006, between American Water Capital Corp. and the purchasers party thereto (incorporated by reference to Exhibit 4.2 to American Water Capital Corp.'s Registration Statement on Form S-1, File No. 333-145757-01, and American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-145757, filed October 11, 2007) with respect to the 5.52% Series B Senior Notes due December 21, 2016, 5.62% Series C Senior Notes due December 21, 2018 and 5.77% Series D Senior Notes due December 21, 2021.
- 4.13 Note Purchase Agreement, as amended, dated March 29, 2007, between American Water Capital Corp. and the purchasers party thereto (incorporated by reference to Exhibit 4.3 to American Water Capital Corp.'s Registration Statement on Form S-1, File No. 333-145757-01, and American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-145757, filed October 11, 2007) with respect to 5.62% Series E Senior Notes due March 29, 2019 and 5.77% Series F Senior Notes due March 29, 2022.
- 4.14 Note Purchase Agreement, dated May 15, 2008, between American Water Capital Corp. and the purchasers party thereto (incorporated by reference to Exhibit 10.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed May 19, 2008) with respect to the 6.25% Series G Senior Notes due May 15, 2018 and the 6.55% Series H Senior Notes due May 15, 2023.
- 10.1 Amended and Restated Credit Agreement, dated as of June 30, 2015, by and among American Water Works Company, Inc., American Water Capital Corp., each of the lenders party thereto, Wells Fargo Bank, National Association, as administrative agent, JPMorgan Chase Bank, N.A., as syndication agent, and Mizuho Bank, Ltd. and PNC Bank, National Association, as co-documentation agents (incorporated by reference to Exhibit 10.1 to American Water Works Company, Inc.'s Current Report on Form 8-K, File No. 001-34028, filed on July 7, 2015).
- 10.2 Support Agreement, dated June 22, 2000, together with First Amendment to Support Agreement, dated July 26, 2000, by and between American Water Works Company, Inc. and American Water Capital Corp. (incorporated by reference to Exhibit 10.3 to American Water Capital Corp.'s Registration Statement on Form S-1, File No. 333-145757-01, and American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-145757, filed October 11, 2007).
- 10.3* Employment Letter Agreement between Linda G. Sullivan and American Water Works Company, Inc. dated March 10, 2014 (incorporated by reference to Exhibit 10.2 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 7, 2014).
- 10.4* Amended and Restated Letter Agreement between Loyd Warnock and American Water Works Company, Inc. dated May 7, 2014 (incorporated by reference to Exhibit 10.4 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).

10.5* Letter, dated December 12, 2014, by and between American Water Works Company, Inc. and Brenda J. Holdnak, Ph.D. (incorporated by reference to Exhibit 10.5 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 5, 2015).

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Exhibit Number	Exhibit Description
10.6*	Letter, dated February 17, 2015, by and between American Water Works Company, Inc. and Michael A. Sgro (incorporated by reference to Exhibit 10.4 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 5, 2015).
10.7*	Severance Agreement and General Release, dated March 27, 2015, by and between American Water Works Company, Inc. and John Bigelow (incorporated by reference to Exhibit 10.9 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
10.8*	Amended and Restated American Water Works Company, Inc. Executive Retirement Plan, dated as of March 1, 2007 (incorporated by reference to Exhibit 10.8 to American Water Capital Corp.'s Registration Statement on Form S-1, File No. 333-145757-01, and American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-145757, filed October 11, 2007).
10.9.1*	American Water Works Company, Inc. Nonqualified Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.15 to American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-145725, filed March 31, 2008).
10.9.2*	Amendment 2010-1 to the American Water Works Company, Inc. Nonqualified Employee Stock Purchase Plan, dated as of December 10, 2010 (incorporated by reference to Exhibit 10.12 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 28, 2011).
10.10*	American Water Works Company, Inc. Executive Severance Policy, dated as of December 16, 2008 (incorporated by reference to Exhibit 10.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed November 3, 2010).
10.11.1*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan, as amended (incorporated by reference to Appendix B to American Water Works Company, Inc.'s Definitive Proxy Statement, File No. 001-34028, filed March 27, 2015).
10.11.2*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2011 Nonqualified Stock Option Grant for ML1 – L5 Employees (incorporated by reference to Exhibit 10.3 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2011).
10.11.3*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2012 Nonqualified Stock Option Grant for ML1 – L5 Employees (incorporated by reference to Exhibit 10.2 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 2, 2012).
10.11.4*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2013 Nonqualified Stock Option Grant Form for ML2 – L5 (incorporated by reference to Exhibit 10.13 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 7, 2013).
10.11.5*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2014 Nonqualified Stock Option Grant Form for ML2 – L5 (incorporated by reference to Exhibit 10.6 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 7, 2014).
10.11.6*	

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Amendment to the American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2014 Nonqualified Stock Option Grant Form for ML2 – L5 (incorporated by reference to Exhibit 10.6A to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 7, 2014).

- 10.11.7* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan May 2014 Nonqualified Stock Option Grant Form for Susan N. Story (incorporated by reference to Exhibit 10.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 6, 2014).
- 10.11.8* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Nonqualified Stock Option Grant (incorporated by reference to Exhibit 10.13.10 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
- 10.11.9* Amendment to American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Nonqualified Stock Option Grant (incorporated by reference to Exhibit 10.13.11 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
- 10.11.10* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Nonqualified Stock Option Grant (for certain executives) (incorporated by reference to Exhibit 10.13.12 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
- 10.11.11* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Nonqualified Stock Option Grant (incorporated by reference to Exhibit 10.1.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).
- 10.11.12* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Nonqualified Stock Option Grant (for certain executives) (incorporated by reference to Exhibit 10.1.2 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).
- 10.11.13* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Restricted Stock Unit Grant (incorporated by reference to Exhibit 10.13.17 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
- 10.11.14* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Restricted Stock Unit Grant (for certain executives) (incorporated by reference to Exhibit 10.13.18 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
- 10.11.15* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan Form of Restricted Stock Unit Grant for Brenda J. Holdnak (incorporated by reference to Exhibit 10.13.19 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).

Exhibit Number	Exhibit Description
10.11.16*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Restricted Stock Unit Grant (incorporated by reference to Exhibit 10.2.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).
10.11.17*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Restricted Stock Unit Grant (for certain executives) (incorporated by reference to Exhibit 10.2.2 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).
10.11.18*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Performance Stock Unit Grant Form A-1 (incorporated by reference to Exhibit 10.13.28 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
10.11.19*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Performance Stock Unit Grant Form A-2 (incorporated by reference to Exhibit 10.13.29 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
10.11.20*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Performance Stock Unit Grant Form B-1 (incorporated by reference to Exhibit 10.13.30 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
10.11.21*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Performance Stock Unit Grant Form B-2 (incorporated by reference to Exhibit 10.13.31 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
10.11.22*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Conditional Performance Stock Unit Grant Form A for certain executive officers (incorporated by reference to Exhibit 10.13.32 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
10.11.23*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Conditional Performance Stock Unit Grant Form B for certain executive officers (incorporated by reference to Exhibit 10.13.33 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).
10.11.24*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Performance Stock Unit Grant Form A-1 (incorporated by reference to Exhibit 10.3.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).
10.11.25*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Performance Stock Unit Grant Form A-2 (incorporated by reference to Exhibit 10.3.2 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).
10.11.26*	American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Performance Stock Unit Grant Form B-1 (incorporated by reference to Exhibit 10.3.3 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).

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- 10.11.27* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Performance Stock Unit Grant Form B-2 (incorporated by reference to Exhibit 10.3.4 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed May 4, 2016).
- 10.11.28* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2010 Stock Unit Grant Form for Non-Employee Directors (incorporated by reference to Exhibit 10.3 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 4, 2010).
- 10.11.29* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2011 Stock Unit Grant Form for Non-Employee Directors (incorporated by reference to Exhibit 10.3 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 3, 2011).
- 10.11.30* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2012 Stock Unit Grant Form for Non-Employee Directors (incorporated by reference to Exhibit 10.2 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 2, 2012).
- 10.11.31* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2013 Stock Unit Grant Form for Non-Employee Directors (incorporated by reference to Exhibit 10.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 7, 2013).
- 10.11.32* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2014 Stock Unit Grant Form for Non-Employee Directors (incorporated by reference to Exhibit 10.5 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 6, 2014).
- 10.11.33* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2015 Stock Unit Grant Form for Non-Employee Directors (incorporated by reference to Exhibit 10.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 5, 2015).
- 10.11.34* American Water Works Company, Inc. 2007 Omnibus Equity Compensation Plan 2016 Stock Unit Grant Form for Non-Employee Directors (incorporated by reference to Exhibit 10.1 to American Water Works Company, Inc.'s Quarterly Report on Form 10-Q, File No. 001-34028, filed August 3, 2016).
- 10.12.1* American Water Works Company, Inc. Annual Incentive Plan (incorporated by reference to Appendix C to American Water Works Company, Inc.'s Definitive Proxy Statement, File No. 001-34028, filed March 27, 2015).
- 10.12.2* Amendment 2016-1 to American Water Works Company, Inc. Annual Incentive Plan (now known as the Annual Performance Plan), effective January 1, 2016 (incorporated by reference to Exhibit 10.14.2 to American Water Works Company, Inc.'s Annual Report on Form 10-K, File No. 001-34028, filed February 25, 2016).

Exhibit Number	Exhibit Description
10.13*	Amended and Restated American Water Works Company, Inc. Deferred Compensation Plan, dated as of January 1, 2001 (incorporated by reference to Exhibit 10.9 to American Water Capital Corp.'s Registration Statement on Form S-1, File No. 333-145757-01, and American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-145757, filed October 11, 2007).
10.14*	Nonqualified Savings and Deferred Compensation Plan for Employees of American Water Works Company, Inc. and Its Designated Subsidiaries, as amended and restated, effective as of January 1, 2009 (incorporated by reference to Exhibit 10.37 to American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-155245, filed November 18, 2008).
10.15*	Nonqualified Deferred Compensation Plan for Non-Employee Directors of American Water Works Company, Inc., as amended and restated, effective as of January 1, 2009 (incorporated by reference to Exhibit 10.38 to American Water Works Company, Inc.'s Registration Statement on Form S-1, File No. 333-155245, filed November 18, 2008).
10.16	Binding Global Agreement in Principle to Settle Claims Arising from the Freedom Industries, Inc. Chemical Spill, dated as of October 31, 2016 (filed herewith).
21.1	Subsidiaries of American Water Works Company, Inc. (filed herewith).
23.1	Consent of PricewaterhouseCoopers LLP (filed herewith).
31.1	Certification of Susan N. Story, President and Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act (filed herewith).
31.2	Certification of Linda G. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act (filed herewith).
32.1	Certification of Susan N. Story, President and Chief Executive Officer, pursuant to Section 906 of the Sarbanes-Oxley Act (furnished herewith).
32.2	Certification of Linda G. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to Section 906 of the Sarbanes-Oxley Act (furnished herewith).
101	The following financial statements from American Water Works Company, Inc.'s Annual Report on Form 10-K for the period ended December 31, 2016, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets; (ii) the Consolidated Statements of Operations; (iii) the Consolidated Statements of Comprehensive Income; (iv) the Consolidated Statements of Cash Flows; (v) the Consolidated Statements of Changes in Stockholders' Equity; and (vi) the Notes to Consolidated Financial Statements (filed herewith).

*Denotes a management contract or compensatory plan or arrangement.

Instruments defining the rights of holders of certain issues of long-term debt of the Company and certain of its consolidated subsidiaries have not been filed as exhibits to this report because the authorized principal amount of any one of such issues does not exceed 10% of the Company's consolidated total assets. The Company agrees to furnish a copy of each such instrument to the SEC upon request.