

FUEL TECH, INC.
Form 10-K
March 10, 2014
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SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)

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

For the fiscal year ended: December 31, 2013
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 001-33059

Fuel Tech, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State of Incorporation)
Fuel Tech, Inc.
27601 Bella Vista Parkway
Warrenville, IL 60555-1617
(630) 845-4500
www.ftek.com

20-5657551
(I.R.S. ID)

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

COMMON STOCK, \$0.01 par value per share NASDAQ
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 Exchange 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 (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or

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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 "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	<input type="checkbox"/>	Accelerated Filer	<input checked="" type="checkbox"/>
Non-accelerated Filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>

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

As of June 30, 2013, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$78,356,000 based on the closing sale price as reported on the NASDAQ National Market System.

As of March 10, 2014, there were 22,592,956 shares of common stock outstanding.

Documents incorporated by reference:

Portions of the definitive Proxy Statement to be delivered to shareholders in connection with the Annual Meeting of Shareholders to be held on May 22, 2014 are incorporated by reference into Part III.

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TABLE OF DEFINED TERMS

Term	Definition
ABC	American Bailey Corporation
AIG	Ammonia Injection Grid
ASCR™	A trademark used to describe our Advanced Selective Catalytic Reduction process
CAIR	Clean Air Interstate Rule
CAVR	Clean Air Visibility Rule
CFD	Computational Fluid Dynamics
Common Shares	Shares of the Common Stock of Fuel Tech
EPA	The U.S. Environmental Protection Agency
FGC	Flue Gas Conditioning
FUEL CHEM®	A trademark used to describe our fuel and flue gas treatment processes, including its TIFI® Targeted In-Furnace Injection™ technology to control slagging, fouling, corrosion and a variety of sulfur trioxide-related issues
GSG™	Graduated Straightening Grid
HERT™ High Energy Reagent Technology™	A trademark used to describe our Selective Non-Catalytic Reduction Process
Loan Notes	Nil-coupon, non-redeemable convertible unsecured loan notes of Fuel Tech
NO _x	Oxides of nitrogen
NO _x OUT®	A trademark used to describe our Selective Non-Catalytic Reduction process for the reduction of NO _x
NO _x OUT-SCR®	A trademark used to describe our direct injection of urea as a catalyst reagent
NO _x OUT CASCADE®	A trademark used to describe our combination of Selective Non-Catalytic Reduction and Selective Catalytic Reduction
SCR	Selective Catalytic Reduction
SIP Call	State Implementation Plan Regulation

SNCR	Selective Non-Catalytic Reduction
TCI® Targeted Corrosion Inhibition™	A trademark used to describe the FUEL CHEM program designed for high-temperature slag and corrosion control, principally in waste-to-energy boilers
TIFI® Targeted In-Furnace Injection™	A trademark used to describe our proprietary technology that enables the precise injection of a chemical reagent into a boiler or furnace as part of a FUEL CHEM program
ULTRA™	A trademark used to describe our process for generating ammonia for use as a Selective Catalytic Reduction reagent

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PART I

Forward-Looking Statements

This Annual Report on Form 10-K contains “forward-looking statements,” as defined in Section 21E of the Securities Exchange Act of 1934, as amended, that are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and reflect our current expectations regarding our future growth, results of operations, cash flows, performance and business prospects, and opportunities, as well as assumptions made by, and information currently available to, our management. We have tried to identify forward-looking statements by using words such as “anticipate,” “believe,” “plan,” “expect,” “intend,” “will,” and similar expressions, but these words are not the exclusive means of identifying forward-looking statements. These statements are based on information currently available to us and are subject to various risks, uncertainties, and other factors, including, but not limited to, those discussed herein under the caption “Risk Factors” that could cause our actual growth, results of operations, financial condition, cash flows, performance and business prospects and opportunities to differ materially from those expressed in, or implied by, these statements. Except as expressly required by the federal securities laws, we undertake no obligation to update such factors or to publicly announce the results of any of the forward-looking statements contained herein to reflect future events, developments, or changed circumstances or for any other reason. Investors are cautioned that all forward-looking statements involve risks and uncertainties, including those detailed in our filings with the Securities and Exchange Commission. See “Risk Factors” in Item 1A.

ITEM 1 - BUSINESS

As used in this Annual Report on Form 10-K, the terms “we,” “us,” or “our,” refer to Fuel Tech, Inc. and our wholly-owned subsidiaries.

GENERAL

We are a leading technology company engaged in the worldwide development, commercialization and application of state-of-the-art proprietary technologies for air pollution control, process optimization, combustion efficiency and advanced engineering services. These technologies enable our customers to operate efficiently in a cost-effective and environmentally sustainable manner. We operate as a fully integrated company with a capital projects business to leverage our Air Pollution Control (APC) technologies and a specialty chemicals business which builds upon our proprietary FUEL CHEM[®] processes. Both segments rely heavily on our unique ability to inject chemical slurries into combustion units, in precise concentrations and locations, to achieve a desired outcome.

Our APC technologies include advanced combustion modification techniques including low NO_x burners and over fire air systems, along with post-combustion nitrogen oxide (NO_x) control approaches, including NO_xOUT[®] and HERT[™] Selective Non-Catalytic Reduction (SNCR) and Rich Reagent Injection (RRI) systems. Our Advanced Selective Catalytic Reduction (ASCR) system utilizes the combination of combustion systems and SNCR to provide a cost effective alternative to high capital cost, standalone conventional SCR systems while providing similar NO_x reduction levels. The ULTRA[™] system generates ammonia on-site for SCR systems using safe urea reagent. Our SCR group provides process design optimization, performance testing and improvement, and catalyst selection services for SCR systems on coal-fired boilers. These technologies have established us as a leader in NO_x reduction, with installations on over 800 units worldwide, where coal, fuel oil, natural gas, municipal waste, biomass, and other fuels are utilized.

Our FUEL CHEM technologies revolve around the unique application of chemical injection programs which improve the efficiency, reliability, fuel flexibility and environmental status of combustion units by controlling slagging, fouling, corrosion, opacity and acid plume, as well as the formation of sulfur trioxide, ammonium bisulfate, particulate matter (PM_{2.5}), sulfur dioxide (SO₂), and carbon dioxide (CO₂). We use our patented TIFI[®] Targeted In-Furnace Injection[™] processes to apply specialty chemical programs to units burning a wide variety of fuels including coal, heavy oil, biomass, and municipal waste. These TIFI programs incorporate design, modeling, equipment, reagent, and service to provide complete customized on-site programs designed to improve plant operations and provide a return on investment in addition to helping meet emission regulatory requirements.

Many of our products and services rely heavily on our computational fluid dynamics and chemical kinetics modeling capabilities, which are enhanced by internally developed, high-end visualization software. These capabilities, coupled with our innovative technologies and multi-disciplined team approach, enable us to provide practical solutions to some of our customers' most challenging issues.

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Air Pollution Control

Regulations and Markets: Domestic

The continued growth of our APC technology segment is dependent upon the adoption and enforcement of increasingly stringent environmental regulations in the U.S. and globally. In the U.S., federal and state laws regulating the emission of NO_x are the primary driver in our APC technology segment. The principal regulatory drivers currently in effect are as follows:

Clean Air Act: The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) at levels that are protective of public health with an adequate margin of safety. The six pollutants specified include: ozone (O₃), Particulate Matter (PM), Nitrogen Dioxide (NO₂), Sulfur Dioxide (SO₂), Lead, and Carbon Monoxide (CO). The NAAQS provisions require that states comply with ozone and particulate emissions standards. NO_x emissions are a precursor to ozone formation and also contribute to fine particulate emissions (PM_{2.5}), which has been the recent regulatory driver through the Cross-State Air Pollution Rule (CSAPR). NO_x emissions were targeted as contributors to fine particulate emissions (PM_{2.5}) and ozone emissions. Since 1990, programs have been established by the EPA at the regional and federal level to help states in their mission to define and meet their State Implementation Plans (SIPs) for attainment. NAAQS PM standards were issued in 1997, with more stringent standards issued in 2006 and 2012. The NAAQS ozone standards issued in 1997 were made more stringent in 2008. The EPA has stated it plans to revise the 2008 ozone NAAQS during 2014.

Cross-State Air Pollution Rule (CSAPR): On July 7, 2011, the Environmental Protection Agency passed the Cross-State Air Pollution Rule (CSAPR) under the “good neighbor” provision of the Clean Air Act to reduce emissions of SO₂ and NO_x from power plants in the eastern half of the United States. This rule replaces the Clean Air Transport Rule (CATR) and focuses on reducing air emissions contributing to fine particle (PM_{2.5}) and ozone nonattainment that often travel across state lines; including SO₂ and NO_x which contribute to PM_{2.5} transport. CSAPR affected 27 states, with compliance for the first phase in 2012, with additional reductions required in the second phase by 2014. Under CSAPR, state emission caps were designated to mitigate the emission impact on downwind states by controlling emissions from upwind states. If sources within a state caused the state to exceed its assurance limit, severe penalties including a two-for-one reduction based on each source’s contribution percentage of the state overage would be applied. A stay on CSAPR was ordered by the U.S. Court of Appeals, District of Columbia Circuit on December 30, 2011, pending resolution of litigation filed by a number of states and companies with combustion sources. The DC Circuit Court vacated CSAPR on August 21, 2012, with a 2-1 vote. That decision is currently on appeal to the U.S. Supreme Court.

Industrial Boiler MACT: In December 2011, the EPA re-proposed its new emissions rule for industrial, commercial and institutional boilers and process heaters, known as the Industrial Boiler Maximum Achievable Control Technology (MACT) standard. The EPA proposed the final rule on January 31, 2013, with compliance scheduled for January 2016. Emissions regulated include acid gas emissions including hydrochloric acid (HCl), carbon monoxide (CO), mercury, PM, and dioxins.

Clean Air Visibility Rule (CAVR): The Clean Air Visibility Rule (CAVR), also known as the Regional Haze rule, is part of the Clean Air Act and was finalized in 2005. Under CAVR, certain States are required to submit implementation plans to the EPA to comply with the Regional Haze requirements, and updates are required every five years. The overall obligation of CAVR is to return the US scenic areas to “active” visibility by 2064.

Consent Decrees: Consent decree activity through the US Department of Justice or EPA may require emission sources to meet individual requirements. Sources may also agree to specific air pollution requirements with states or environmental groups.

Regulations and Markets: International

We also sell NO_x control systems outside the United States, specifically in Europe, Latin America, and in the Pacific Rim, including the People’s Republic of China (China). Under European Union Directives and new regulations in Chile, certain power plants must come into compliance with specified NO_x reduction targets by 2016.

China also continues to represent an attractive opportunity for us as the government set pollution control and energy conservation and efficiency improvements as top priorities as part of tightened standards that were issued in 2012. We have viable technologies to help achieve these objectives. China’s dominant reliance on coal as an energy resource is

not expected to change in the foreseeable future. China alone is forecasted to account for 76% of the projected increase in world coal use through 2035. Clean air will continue to be a pressing issue, especially given China's robust economic growth, expected growth in thermal power production, and an increasingly expanded role in international events and organizations.

China's Ministry of Environmental Protection issued regulations to be implemented as part of the Twelfth Five-Year Plan, running from 2011 to 2015, in support of reducing harmful pollutants and further defining the technologies recommended to achieve the reductions. The regulations for NO_x apply to all thermal power units that have a steaming rate of 65 tons per hour (155 megawatts)

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(MW)) or larger. Newly constructed units and existing units that were approved subsequent to December 31, 2013, must meet the same stringent emission standard, while certain existing units approved prior to December 31, 2013 must meet a standard that is less stringent. In addition, all units that are in Key Regions must achieve the same standard as the newly constructed units. Key Regions are defined as those areas that are highly developed or highly populated and are sensitive to environmental overloading. All existing coal and oil-fired thermal units must comply with the proposed regulation by January 1, 2014 while all new units were scheduled to comply by January 1, 2012. In addition, the regulation noted that NO_x reduction should be achieved via the use of Low NO_x Burners and Over-Fire Air systems in combination with SNCR or SCR, where appropriate, to achieve required emissions levels. The combination of SNCR and SCR technologies in tandem is also considered as a viable technology choice. While the current regulations do not specifically comment on the use of urea as the preferred reducing reagent in the NO_x control process in high population density areas, we believe that technologies to convert urea to ammonia will be deployed in Key Regions in support of safety objectives, and this practice has already been implemented in major cities such as Beijing, Guangzhou and Shanghai.

We have established a market position in NO_x control resulting from the initial national demonstration projects utilizing NO_xOUT CASCADE[®] technology at Jiangsu Kanshan (two new 600 MW units), NO_xOUT SNCR[®] technology at Jiangyin Ligang (four new 600 MW units) and Inner Mongolia (two new 600 MW units), and ULTRA technology on projects in Beijing (multiple projects on units of varying sizes including two district heating units), Zhejiang (four 1000 MW retrofit units), Shanxi (two new 660 MW units) and Liaoning (two new 330 MW units). These projects have established our NO_x control technologies as being acceptable for use in reducing NO_x emissions and have resulted in additional contracts in China. The regulations established in support of the NO_x standards defined as part of the Twelfth Five-Year Plan will offer potential business opportunities for us and our suite of NO_x technologies.

Products

Our NO_x reduction technologies are installed worldwide on over 800 combustion units, including utility, industrial and municipal solid waste applications. Our products include customized NO_x control systems and our patented ULTRA[™] technology, which converts urea-to-ammonia on site and provide safe reagent for use in Selective Catalytic Reduction (SCR) systems.

Low NO_x Burners and Ultra Low NO_x Burners (LNB and ULNB) are available for coal-, oil-, and gas-fired industrial and utility units. Each system application is specifically designed to maximize NO_x reduction. Computational fluid dynamics combustion modeling is used to validate the design prior to fabrication of equipment. NO_x reductions can range from 40%-60% depending on the fuel type. Over-Fire Air (OFA) systems stage combustion for enhanced NO_x reduction. Additional NO_x reductions, beyond Low NO_x Burners, of 35% - 50% are possible on different boiler configurations on a range of fuel types. Combined overall reductions range from 50% - 70%, with overall capital costs ranging from \$10 - \$20/kW and total costs ranging from \$300 - \$1,500/ton of NO_x removed, depending on the scope. Our NO_xOUT[®] and HERT[™] SNCR processes use non-hazardous urea as the reagent rather than ammonia. Both the NO_xOUT[®] and HERT[™] processes on their own are capable of reducing NO_x by up to 25% - 50% for utilities and by potentially significantly greater amounts for industrial units in many types of plants with capital costs ranging from \$5 - \$20/kW for utility boilers and with total annualized operating costs ranging from \$1,000 - \$2,000/ton of NO_x removed.

Our Advanced Selective Catalytic Reduction (ASCR[™]) systems include LNB, OFA, and SNCR components, along with a downsized SCR catalyst, Ammonia Injection Grid (AIG), and Graduated Straightening Grid (GSG[™]) system. Together, these systems provide up to 90% NO_x reduction at significantly lower capital and operating costs than conventional SCR systems while providing greater operational flexibility to plant operators. The capital costs for ASCR systems can range from \$30 - \$150/kW depending on boiler size and configuration, which is significantly less than that of conventional SCRs, which can cost \$300/kW or more, while operating costs are competitive with those experienced by SCR systems. The NO_xOUT CASCADE[®] and NO_xOUT-SCR[®] processes are basic types of ASCR systems which use just SNCR and SCR catalyst components. The NO_xOUT CASCADE[®] systems can achieve 60% - 70% NO_x reduction, with capital costs being a portion of the ASCR values defined above. Our NO_xOUT-SCR[®] process utilizes urea as the SCR catalyst reagent to achieve NO_x reductions of up to 85% from smaller stationary

combustion sources with capital and operating costs competitive with equivalently sized, standard SCR systems. Our ULTRA™ process is designed to convert urea to ammonia safely and economically for use as a reagent in the SCR process for NO_x reduction. Recent local objections in the ammonia permitting process have raised concerns regarding the safety of ammonia shipment and storage in quantities sufficient to supply SCR. In addition, the Department of Homeland Security has characterized anhydrous ammonia as a Toxic Inhalation Hazard commodity. Overseas, new coal-fired power plants incorporating SCR systems are expected to be constructed at a rapid rate in China, and our ULTRA™ process is believed to be a market leader for the safe conversion of urea to ammonia just prior to injection into the flue

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gas duct, which is particularly important near densely populated cities, major waterways, harbors or islands, or where the transport of anhydrous or aqueous ammonia is a safety concern.

Our SCR group provides process design optimization, performance testing and improvement, and catalyst selection services for SCR systems on coal-fired boilers. In addition, other related services, including start-ups, maintenance support and general consulting services for SCR systems, Ammonia Injection Grid design and tuning to help optimize catalyst performance, and catalyst management services to help optimize catalyst life, are now offered to customers around the world. We also specialize in both physical experimental models, which involve construction of scale models through which fluids are tested, and computational fluid dynamics models, which simulate fluid flow by generating a virtual replication of real-world geometry and operating inputs. We design flow corrective devices, such as turning vanes, ash screens, static mixers and our patent pending Graduated Straightening Grid (GSG™). Our models help clients optimize performance in flow critical equipment, such as selective catalytic reactors in SCR systems, where the effectiveness and longevity of catalysts are of utmost concern. The Company's modeling capabilities are also applied to other power plant systems where proper flow distribution and mixing are important for performance, such as flue gas desulphurization scrubbers, electrostatic precipitators, air heaters, exhaust stacks and carbon injection systems for mercury removal.

The key market dynamic for the APC product line is the continued use of coal as the principal fuel source for global electricity production. Coal currently accounts for approximately 37% of all U.S. electricity generation and roughly 80% of Chinese electricity generation. Major coal consumers include China, the United States and India. Sales of the NO_x reduction technologies were \$72.6 million, \$62.4 million, and \$50.9 million for the years ended December 31, 2013, 2012 and 2011, respectively.

NO_x Reduction Competition

Competition with our NO_x reduction suite of products may be expected from companies supplying urea SNCR systems, combustion modification products, SCR systems and ammonia SNCR systems. In addition, we experience competition in the urea-to-ammonia conversion market.

Combustion modifications, including Low NO_x Burners and Over-Fire Air systems, can be fitted to most types of boilers with cost and effectiveness varying with specific boilers. Combustion modifications may yield up to 20% - 60% NO_x reduction economically with capital costs ranging from \$10 - \$20/kW and total costs ranging from \$300 - \$1,500/ton of NO_x removed. The modifications are designed to reduce the formation of NO_x and are typically the first NO_x reduction efforts employed. Companies such as Alstom, Babcock Power, Inc., The Babcock & Wilcox Burner Business, Combustion Components Associates, Inc., Foster Wheeler Corporation, and Siemens are active competitors in the Low NO_x Burner business. Once NO_x is formed, then the SCR process is an effective and proven method of control for removal of NO_x up to 90%. SCR systems have a high capital cost of \$300+/kW on retrofit coal applications. Such companies as Alstom, Babcock Power, The Babcock & Wilcox Company, Foster Wheeler Corporation, Peerless Manufacturing Company, and Hitachi, are active SCR system providers, or providers of the catalyst itself.

The use of ammonia as the reagent for the SNCR process can reduce NO_x by 30% - 70% on incinerators, but has limited applicability in the utility industry. Ammonia system capital costs range from \$5 - \$20/kW, with annualized operating costs ranging from \$1,000 - \$3,000/ton of NO_x removed. These systems require the use of either anhydrous or aqueous ammonia, both of which are hazardous substances.

In addition to or in lieu of using the foregoing processes, certain customers may elect to close or de-rate plants, purchase electricity from third-party sources, switch from higher to lower NO_x-emitting fuels or purchase NO_x emission allowances.

Lastly, with respect to urea-to-ammonia conversion technologies, a competitive approach to our controlled urea decomposition system is available from Wahlco, Inc., which manufactures a system that hydrolyzes urea under high temperature and pressure.

APC BACKLOG

Consolidated APC segment backlog at December 31, 2013 was \$22.4 million versus backlog at December 31, 2012 of \$46.7 million. A substantial portion of the backlog as of December 31, 2013 should be recognized as revenue in fiscal

2014, although the timing of such revenue recognition in 2014 is subject to the timing of the expenses incurred on existing projects.

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FUEL CHEM

Product and Markets

The FUEL CHEM® technology segment revolves around the unique application of specialty chemicals to improve the efficiency, reliability and environmental status of plants operating in the electric utility, industrial, pulp and paper, waste-to-energy, university and district heating markets. FUEL CHEM programs are currently in place on combustion units in North America and Europe, treating a wide variety of solid and liquid fuels, including coal, heavy oil, black liquor, biomass and municipal waste.

Central to the FUEL CHEM approach is the introduction of chemical reagents, such as magnesium hydroxide, to combustion units via in-body fuel application (pre-combustion) or via direct injection (post-combustion) utilizing our proprietary TIFI® technology. By attacking performance-hindering problems, such as slagging, fouling and corrosion, as well as the formation of sulfur trioxide (SO₃), ammonium bisulfate (ABS), particulate matter (PM_{2.5}), carbon dioxide (CO₂), and unburned carbon in fly ash, our programs offer numerous operational, financial and environmental benefits to owners of boilers, furnaces and other combustion units.

The key market dynamic for this product line is the continued use of coal as the principal fuel source for global electricity production. Coal currently accounts for approximately 37% of all U.S. electricity generation and roughly 80% of Chinese electricity generation. Major coal consumers include the United States, China and India.

The principal market for this product line are electric power plants burning coals with slag-forming constituents such as sodium, iron and high levels of sulfur. Sodium is typically found in the Powder River Basin (PRB) coals of Wyoming and Montana. Iron is typically found in coals produced in the Illinois Basin region. High sulfur content is typical of Illinois Basin coals and certain Appalachian coals. High sulfur content can give rise to unacceptable levels of SO₃ formation especially in plants with SCR systems and flue gas desulphurization units (scrubbers).

The combination of slagging coals and SO₃-related issues, such as “blue plume” formation, air pre-heater fouling and corrosion, SCR fouling and the proclivity to suppress certain mercury removal processes, represents attractive market potential for Fuel Tech.

A potentially large fuel treatment market exists in Mexico, where high-sulfur, low-grade fuel oil containing vanadium and nickel is a major source for electricity production and refinery steam production. The presence of these metallic constituents and high sulfur promotes slag build-up and high and low temperature corrosion of combustion units, and releases acid gas emissions from the stack. We have successfully treated such units with our TIFI and in-fuel technologies. To capitalize on this market opportunity, we have a license implementation agreement that expires in 2015 with options for renewal with a Mexican company to implement our TIFI program for utility and industrial end user customers in Mexico. Since 2011, our TIFI program has been in continuous use on three boilers located at a power plant in Mexico (110 MW generating capacity). In addition, we have installed TIFI equipment on three boilers at a separate power plant (610 MW) in connection with the implementation agreement.

Sales of the FUEL CHEM products were \$36.8 million, \$35.2 million, and \$42.7 million for the years ended December 31, 2013, 2012 and 2011, respectively.

Competition

Competition for our FUEL CHEM product line includes chemicals sold by specialty chemical and combustion engineering companies, such as Ashland Inc., Environmental Energy Services, Inc., and GE Infrastructure. No technologically comparable substantive competition currently exists for our TIFI technology, which is designed primarily for slag control and SO₃ abatement, but there can be no assurance that such lack of substantive competition will continue.

INTELLECTUAL PROPERTY

The majority of our products are protected by U.S. and non-U.S. patents. We own 94 granted patents worldwide and six allowed utility model patents in China. We have 88 patent applications pending; including 14 in the United States and 74 pending in non-U.S. jurisdictions. These patents and applications cover some 36 inventions, 17 associated with the NO_x reduction business, 11 associated with the FUEL CHEM business and eight associated with non-commercialized technologies. Our patents have expiration dates ranging from April 1, 2014 to December 19, 2033. The average remaining duration of our patents is approximately nine years. Four patents are due to expire in 2014, including three non-commercialized technologies in China.

Management believes that the protection provided by the numerous claims in the above referenced patents or patent applications is substantial, and afford us a significant competitive advantage in our business. Accordingly, any significant reduction in the protection afforded by these patents or any significant development in competing technologies could have a material adverse effect on our business.

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EMPLOYEES

At December 31, 2013, we had 198 employees, 151 in North America, 33 in China, eight in Europe and six in Chile. We enjoy good relations with our employees and are not a party to any labor management agreement.

RELATED PARTIES

Douglas G. Bailey, our Chairman, Chief Executive Officer and President, is a stockholder of American Bailey Corporation (ABC), which is a related party. Please refer to Note 10 to the consolidated financial statements in this document for information about our transactions with ABC. Additionally, see the more detailed information relating to this subject under the caption “Certain Relationships and Related Transactions” in our definitive Proxy Statement to be distributed in connection with our 2014 Annual Meeting of Stockholders, which information is incorporated by reference.

AVAILABLE INFORMATION

We are a fully integrated company using a suite of advanced technologies to provide boiler optimization, efficiency improvement and air pollution reduction and control solutions to utility and industrial customers worldwide. Originally incorporated in 1987 under the laws of the Netherlands Antilles as Fuel-Tech N.V., we were domesticated in the United States on September 30, 2006, and continue as a Delaware corporation with our corporate headquarters at 27601 Bella Vista Parkway, Warrenville, Illinois, 60555-1617. Fuel Tech maintains an Internet website at www.ftek.com. Our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) of the Exchange Act are made available through our website as soon as reasonably practical after we electronically file or furnish the reports to the Securities and Exchange Commission. Our website also contains our Corporate Governance Guidelines and Code of Ethics and Business Conduct, as well as the charters of the Audit, Compensation, and Nominating and Corporate Governance committees of the Board of Directors. All of these documents are available in print without charge to stockholders who request them. Information on our website is not incorporated into this report.

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ITEM 1A - RISK FACTORS

Investors in our Common Shares should be mindful of the following risk factors relative to our business.

Our Product Portfolio Lacks Diversification

We have two broad technology segments that provide advanced engineering solutions to meet the pollution control, efficiency improvement, and operational optimization needs of energy-related facilities worldwide. They are as follows:

The Air Pollution Control technology segment includes technologies to reduce NO_x emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low and Ultra Low NO_x Burners (LNB and ULNB), Over-Fire Air (OFA) systems, NO_xOUT[®] and HERT[™] Selective Non-Catalytic Reduction (SNCR) systems, and Advanced Selective Catalytic Reduction (ASCR[™]) systems. The ASCR system includes ULNB, OFA, and SNCR components, along with a downsized SCR catalyst, Ammonia Injection Grid (AIG), and Graduated Straightening Grid (GSG[™]) systems to provide high NO_x reductions at significantly lower capital and operating costs than conventional SCR systems. The NO_xOUT CASCADE[®] and NO_xOUT-SCR[®] processes are basic types of ASCR systems, using just SNCR and SCR catalyst components. ULTRA[™] technology creates ammonia at a plant site using safe urea for use with any SCR application. Flue Gas Conditioning systems are chemical injection systems offered in markets outside the U.S. and Canada to enhance electrostatic precipitator and fabric filter performance in controlling particulate emissions.

The FUEL CHEM[®] technology segment which uses chemical processes in combination with advanced Computational Fluid Dynamics (CFD) and Chemical Kinetics Modeling (CKM) boiler modeling for the control of slagging, fouling, corrosion, opacity and other sulfur trioxide-related issues in furnaces and boilers through the addition of chemicals into the furnace using TIFI[®] Targeted In-Furnace Injection[™] technology.

An adverse development in our advanced engineering solution business as a result of competition, technological change, government regulation, customers converting to use fuels other than coal or any other factor could have a significantly greater impact than if we maintained more diverse operations.

We Face Substantial Competition

Competition in the Air Pollution Control market comes from competitors utilizing their own NO_x reduction processes, including SNCR systems, Low NO_x Burners, Over-Fire Air systems, flue gas recirculation, ammonia SNCR and SCR, which do not infringe our patented technologies. Indirect competition will also arise from business practices such as the purchase rather than the generation of electricity, fuel switching, closure or de-rating of units, and sale or trade of pollution credits and emission allowances. Utilization by customers of such processes or business practices or combinations thereof may adversely affect our pricing and participation in the NO_x control market if customers elect to comply with regulations by methods other than the purchase of our Air Pollution Control products. See Item 1 “Products” and “NO_x Reduction Competition” in the Air Pollution Control segment overview.

Competition in the FUEL CHEM markets includes chemicals sold by specialty chemical and combustion engineering companies, such as GE Infrastructure, Ashland Inc. and Environmental Energy Services, Inc. As noted previously, no significant competition currently exists for our patented TIFI technology, which is designed primarily for slag control and sulfur trioxide abatement. However, there can be no assurance that such lack of significant competition will continue.

Our Business Is Dependent on Continuing Air Pollution Control Regulations and Enforcement

Our business is significantly impacted by and dependent upon the regulatory environment surrounding the electricity generation market. Our business will be adversely impacted to the extent that regulations are repealed or amended to significantly reduce the level of required NO_x reduction, or to the extent that regulatory authorities delay or otherwise minimize enforcement of existing laws. Additionally, long-term changes in environmental regulation that threaten or preclude the use of coal or other fossil fuels as a primary fuel source for electricity production which result in the reduction or closure of a significant number of fossil fuel-fired power plants may adversely affect our business,

financial condition and results of operations. See Item 1 above under the caption “Regulations and Markets” in the Air Pollution Control segment overview.

We May Not Be Able to Successfully Protect our Patents and Proprietary Rights

We hold licenses to or own a number of patents for our products and processes. In addition, we also have numerous patent applications pending both in the U.S. and abroad. There can be no assurance that any of our pending patent applications will be granted or that our outstanding patents will not be challenged, overturned or otherwise circumvented by competitors. In foreign

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markets, the absence of harmonized patent laws makes it more difficult to ensure consistent respect for our patent rights in emerging markets. In addition, certain critical technical information relating to our products which is not patented is held as trade secret, and protected by trade secret laws and restrictions on disclosure contained in our confidentiality and licensing agreements. There can be no assurance that such protections will prove adequate or that we will have adequate remedies against contractual counterparties for disclosure of our trade secrets or other violations of our intellectual property rights. See Item 1 above under the caption “Intellectual Property.”

Our Results May Be Affected By Foreign Operations

In 2007, we expanded our operations in China by establishing a wholly-owned subsidiary in Beijing. Our management believes that the Asia-Pacific region, particularly China, offers significant market opportunities as nations in this region look to establish regulatory policies for improving their environment and utilizing fossil fuels, especially coal, efficiently and effectively. In 2012, we expanded our operations in Latin America by establishing a wholly-owned subsidiary in Chile. The future business opportunities in these markets are dependent on the continued implementation of regulatory policies that will benefit our technologies, the acceptance of our engineering solutions in such markets, the ability of potential customers to utilize our technologies on a competitive, cost-effective basis, and our ability to protect and enforce our intellectual property rights.

Our Operating Results May Be Adversely Affected by Product Pricing

The onset of significant competition for either of the technology segments might require us to lower our product prices in order to remain competitive and have a corresponding adverse impact on our realized gross margins and operating profitability. See the risk factor entitled “We Face Substantial Competition” above.

We May Not Be Able to Purchase Raw Materials on Commercially Advantageous Terms

Our FUEL CHEM technology segment is dependent, in part, upon a supply of magnesium hydroxide. Any adverse changes in the availability of this chemical will likely have an adverse impact on ongoing operation of our FUEL CHEM programs. On March 4, 2009, we entered into a Restated Product Supply Agreement (“PSA”) with Martin Marietta Magnesia Specialties, LLC (MMMS) in order to assure the continuance of a stable supply from MMMS of magnesium hydroxide products for our requirements in the United States and Canada. On October 31, 2013, we agreed to extend the term of the PSA to December 31, 2016. Pursuant to the PSA, MMMS supplies us with magnesium hydroxide products manufactured pursuant to our specifications and we have agreed to purchase from MMMS, and MMMS has agreed to supply, 100% of our requirements for such magnesium hydroxide products for our customers who purchase such products for delivery in the United States and Canada. There can be no assurance that we will be able to obtain a stable source of magnesium hydroxide in markets outside the United States.

Our Customer Base Is Highly Concentrated

A small number of customers have historically accounted for a significant portion of our revenues. There can be no assurance that our current customers will continue to place orders, that orders by existing customers will continue at the levels of previous periods, or that we will be able to obtain orders from new customers. The loss of one or more of our customers could have a material adverse effect on our sales and operating results.

We May Borrow Funds Pursuant to our Credit Facilities

We are party to a \$15 million domestic revolving credit agreement with JPMorgan Chase Bank, N.A. As of December 31, 2013, there were no outstanding borrowings on this facility and Fuel Tech was in compliance with all financial covenants contained in the agreement. In addition, our Chinese subsidiary, Beijing Fuel Tech Environmental Technologies Company, Ltd., has a RMB 35 million (approximately \$5.725 million) revolving credit facility with JPMorgan Chase Bank (China) Company Limited. As of December 31, 2013, the outstanding borrowings under this facility were approximately \$1,636. In the event of any default on our part under either of these agreements, the lender is entitled to accelerate payment of any amounts outstanding and may, under certain circumstances, cancel the facilities. If we were unable to obtain a waiver for a breach of covenant and the lender accelerated the payment of any outstanding amounts, such acceleration may cause our cash position to significantly deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require us to obtain alternate financing.

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ITEM 1B - UNRESOLVED STAFF COMMENTS

None

ITEM 2 - PROPERTIES

We own an office building in Warrenville, Illinois, which has served as our corporate headquarters since June 23, 2008. This facility, with approximately 40,000 square feet of office space, was purchased for approximately \$6,000,000 and subsequently built out and furnished for an additional cost of approximately \$5,500,000. This facility will meet our growth requirements for the foreseeable future.

We also operate from leased office facilities in Stamford, Connecticut; Durham, North Carolina; Gallarate, Italy and Beijing, China. We do not segregate any of our leased facilities by operating business segment. The terms of our four material lease arrangements are as follows:

The Stamford, Connecticut building lease term, for approximately 6,440 square feet, runs from February 1, 2010 to December 31, 2019. The facility houses certain administrative functions including Investor Relations.

The Beijing, China building lease term, for approximately 5,800 square feet, runs from September 1, 2013 to August 31, 2014. This facility serves as the operating headquarters for our Beijing Fuel Tech operation. We have the option to extend the lease term at a market rate to be agreed upon with the lessor.

The Durham, North Carolina building lease term, for approximately 16,000 square feet, runs from November 1, 2005 to April 30, 2014. We have no option to extend this lease.

The Gallarate, Italy building lease term, for approximately 1,300 square feet, runs from May 1, 2013 to April 30, 2019. This facility serves as the operating headquarters for our European operations.

ITEM 3 - LEGAL PROCEEDINGS

We are from time to time involved in litigation incidental to our business. We are not currently involved in any litigation in which we believe an adverse outcome would have a material effect on our business, financial condition, results of operations, or prospects.

ITEM 4 – MINE SAFETY DISCLOSURES

Not Applicable

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PART II

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

Market

Our Common Shares have been traded since September 1993 on The NASDAQ Stock Market, Inc. The trading symbol is FTEK.

Prices

The table below sets forth the high and low sales prices during each calendar quarter since January 2012.

2013	High	Low
Fourth Quarter	\$9.63	\$4.19
Third Quarter	4.78	3.63
Second Quarter	4.42	3.55
First Quarter	5.20	4.00
2012	High	Low
Fourth Quarter	\$4.38	\$3.49
Third Quarter	5.51	4.16
Second Quarter	5.57	3.49
First Quarter	6.76	5.25

Dividends

We have never paid cash dividends on the Common Shares and have no current plan to do so in the foreseeable future. The declaration and payment of dividends on the Common Shares are subject to the discretion of our Board of Directors. The decision of the Board of Directors to pay future dividends will depend on general business conditions, the effect of a dividend payment on our financial condition, and other factors the Board of Directors may consider relevant. The current policy of the Board of Directors is to reinvest earnings in operations to promote future growth.

Share Repurchase Program

In August 2011, our Board of Directors authorized the repurchase of up to \$6 million of our outstanding common shares through December 31, 2012. This initial program was completed in the quarter ended March 31, 2012. In May 2012, the Board of Directors authorized a second repurchase program allowing us to repurchase up to an additional \$6 million of our outstanding common shares through June 30, 2013 and this repurchase program was completed in the quarter ended September 30, 2012. The share repurchase programs were funded through our existing cash on hand. Purchases made pursuant to the programs were made in the open market. The timing, manner, price and amount of any those repurchases were determined in our discretion and were subject to economic and market conditions, stock price, applicable legal requirements, and other factors.

During the course of the share repurchase programs, we repurchased an aggregate of 2,306,590 common shares for a total cost of approximately \$12,000 including commissions of approximately \$76. These acquired shares have been retired and are no longer shown as issued or outstanding shares.

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The following table summarizes our share repurchase programs since their inception:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Cost	Maximum Dollar Value of Shares That May Yet Be Purchased Under the Program
Phase One Program				
August 25, 2011 through September 30, 2011	571,554	\$5.89	\$3,367	\$ 2,633
October 1, 2011 through December 31, 2011	130,160	5.71	744	1,889
January 1, 2012 through March 31, 2012	334,636	5.64	1,889	—
Phase Two Program				
April 1, 2012 through June 30, 2012	1,124,797	4.70	5,290	710
July 1, 2012 through September 30, 2012	145,443	4.88	710	—
Total	2,306,590	\$5.20	\$12,000	\$ —

Holders

Based on information from our Transfer Agent and from banks and brokers, we estimate that, as of February 4, 2014, there were approximately 11,400 beneficial holders and 222 registered stockholders of our Common Shares.

Transfer Agent

The Transfer Agent and Registrar for the Common Shares is Computershare Shareowner Services LLP, 480 Washington Boulevard, Jersey City, New Jersey 07310-1900.

Performance Graph

The following line graph compares our total return to stockholders per Common Share for the five years ended December 31, 2013 to that of the NASDAQ Composite Index and the WilderHill Progressive Energy Index for the period December 31, 2008 through December 31, 2013.

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ITEM 6 - SELECTED FINANCIAL DATA

Selected financial data are presented below as of the end of and for each of the fiscal years in the five-year period ended December 31, 2013. The selected financial data should be read in conjunction with the audited consolidated financial statements as of and for the year ended December 31, 2013, and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this report and the schedules thereto.

CONSOLIDATED STATEMENT of OPERATIONS DATA (in thousands of dollars, except for share and per-share data)	For the years ended December 31				
	2013	2012	2011	2010	2009
Revenues	\$109,338	\$97,644	\$93,668	\$81,795	\$71,397
Cost of sales	62,521	56,899	49,857	46,821	42,444
Selling, general and administrative and other costs and expenses	36,375	35,545	34,162	31,037	32,034
Operating income (loss)	8,000	5,200	9,649	3,937	(3,081)
Net income (loss)	5,101	2,776	6,148	1,753	(2,306)
Basic income (loss) per common share	\$0.23	\$0.12	\$0.26	\$0.07	\$(0.10)
Diluted income (loss) per common share	\$0.23	\$0.12	\$0.25	\$0.07	\$(0.10)
Weighted-average basic shares outstanding	22,286,000	22,709,000	24,095,000	24,213,000	24,148,000
Weighted-average diluted shares outstanding	22,579,000	23,535,000	24,633,000	24,405,000	24,148,000
	December 31				
CONSOLIDATED BALANCE SHEET DATA (in thousands of dollars)	2013	2012	2011	2010	2009
Working capital	\$48,619	\$38,918	\$43,626	\$36,645	\$30,578
Total assets	110,058	105,897	112,990	103,203	92,262
Long-term obligations	789	715	1,347	1,482	2,196
Total liabilities	21,435	21,661	23,977	19,293	14,040
Stockholders' equity (1)	88,623	84,236	89,013	83,910	78,222

Notes:

- (1) Stockholders' equity includes the principal amount of nil coupon non-redeemable perpetual loan notes. See Note 6 to the consolidated financial statements.

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ITEM 7 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (amounts in thousands of dollars)

Background

We have two broad technology segments that provide advanced engineered solutions to meet the pollution control, efficiency improvement and operational optimization needs of energy-related facilities worldwide. They are as follows:

Air Pollution Control Technologies

The Air Pollution Control technology segment includes technologies to reduce NO_x emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low and Ultra Low NO_x Burners (LNB and ULNB), OFA systems, NO_xOUT and HERT SNCR systems, and ASCR systems. The ASCR system includes ULNB, OFA, and SNCR components, along with a downsized SCR catalyst, AIG, and GSG systems to provide high NO_x reductions at significantly lower capital and operating costs than conventional SCR systems. The NO_xOUT CASCADE and NO_xOUT-SCR processes are basic types of ASCR systems, using just SNCR and SCR catalyst components. ULTRA technology creates ammonia at a plant site using safe urea for use with any SCR application. Flue Gas Conditioning systems are chemical injection systems offered in markets outside the U.S. and Canada to enhance electrostatic precipitator and fabric filter performance in controlling particulate emissions. We distribute our products through our direct sales force and third-party sales agents.

FUEL CHEM Technologies

The FUEL CHEM technology segment, which uses chemical processes in combination with advanced CFD and CKM boiler modeling, for the control of slagging, fouling, corrosion, opacity and other sulfur trioxide-related issues in furnaces and boilers through the addition of chemicals into the furnace using TIFI Targeted In-Furnace Injection technology. Fuel Tech sells its FUEL CHEM program through its direct sales force and agents to industrial and utility power-generation facilities. FUEL CHEM programs have been installed on combustion units in North America, Europe, China, and India, treating a wide variety of solid and liquid fuels, including coal, heavy oil, biomass and municipal waste. The FUEL CHEM program improves the efficiency, reliability and environmental status of plants operating in the electric utility, industrial, pulp and paper, waste-to-energy, university and district heating markets and offers numerous operational, financial and environmental benefits to owners of boilers, furnaces and other combustion units.

The key market dynamic for both technology segments is the continued use of fossil fuels, especially coal, as the principal fuel source for global electricity production. Coal currently accounts for approximately 42% of all U.S. electricity generation and roughly 80% of Chinese electricity generation. Major coal consumers include China, the United States and India.

Critical Accounting Policies and Estimates

The consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America, which require us to make estimates and assumptions. We believe that of our accounting policies (see Note 1 to the consolidated financial statements), the following involve a higher degree of judgment and complexity and are deemed critical. We routinely discuss our critical accounting policies with the Audit Committee of the Board of Directors.

Revenue Recognition

Revenues from the sales of chemical products are recorded when title transfers, either at the point of shipment or at the point of destination, depending on the contract with the customer.

We use the percentage of completion method of accounting for equipment construction, equipment supply and license contracts that are sold within the Air Pollution Control technology segment. Under the percentage of completion method, revenues are recognized as work is performed based on the relationship between actual construction costs incurred and total estimated costs at completion. Construction costs include all direct costs such as materials, labor, and subcontracting costs, and indirect costs allocable to the particular contract such as indirect labor, tools and equipment, and supplies. Revisions in completion estimates and contract values are made in the period in which the facts giving rise to the revisions become known and can influence the timing of when revenues are recognized under the percentage of completion method of accounting. Such revisions have historically not had a material effect on the amount of revenue recognized. Provisions are made for estimated losses on uncompleted contracts in the period in which such losses are determined. As of December 31, 2013, we had three construction contracts in progress that were identified as loss contracts and a provision for losses in the amount of \$68 was recorded in other accrued liabilities on the consolidated balance sheets. As of December 31, 2012, we had two construction contracts in progress that were identified as loss contracts and a provision for losses in the amount of \$57 was recorded in other accrued liabilities on the consolidated balance sheets.

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Typically, our APC contracts are eight to sixteen months in length. A typical contract will have three or four critical operational measurements that, when achieved, serve as the basis for us to invoice the customer via progress billings. At a minimum, these measurements will include the generation of engineering drawings, the shipment of equipment and the completion of a system performance test.

As part of most of our contractual APC project agreements, we contractually commit to customer-specific acceptance criteria that relate to the operational performance of the system that is being sold. These criteria are determined based on mathematical modeling that is performed by our personnel, which is in turn based on operational inputs that are provided by the customer. Our customer is solely responsible for the accuracy of the operating condition information; all performance guarantees and equipment warranties granted by us are void if the operating condition information is inaccurate or is not met.

Accounts receivable includes unbilled receivables, representing revenues recognized in excess of billings on uncompleted contracts under the percentage of completion method of accounting. At December 31, 2013 and December 31, 2012, unbilled receivables were approximately \$12,599 and \$15,661, respectively, and are included in accounts receivable on the consolidated balance sheet. Billings in excess of costs and estimated earnings on uncompleted contracts were \$1,206 and \$1,777 at December 31, 2013 and December 31, 2012, respectively, and are included in other accrued liabilities on the consolidated balance sheet.

We have installed over 800 units with APC technology and normally provide performance guarantees to our customers based on the operating conditions for the project. As part of the project implementation process, we perform system start-up and optimization services that effectively serve as a test of actual project performance. We believe that this test, combined with the accuracy of the modeling that is performed, enables revenue to be recognized prior to the receipt of formal customer acceptance.

Allowance for Doubtful Accounts

The allowance for doubtful accounts is management's best estimate of the amount of credit losses in accounts receivable. In order to control and monitor the credit risk associated with our customer base, we review the credit worthiness of customers on a recurring basis. Factors influencing the level of scrutiny include the level of business the customer has with us, the customer's payment history and the customer's financial stability. Receivables are considered past due if payment is not received by the date agreed upon with the customer, which is normally 30 days.

Representatives of our management team review all past due accounts on a weekly basis to assess collectability. At the end of each reporting period, the allowance for doubtful accounts balance is reviewed relative to management's collectability assessment and is adjusted if deemed necessary through a corresponding charge or credit to bad debts expense, which is included in selling, general, and administrative expenses in the consolidated statements of operations. Bad debt write-offs are made when management believes it is probable a receivable will not be recovered.

Assessment of Potential Impairments of Goodwill and Intangible Assets

Goodwill and indefinite-lived intangible assets are not amortized, but rather are reviewed annually (in the fourth quarter) or more frequently if indicators arise, for impairment. We do not have any indefinite-lived intangible assets other than goodwill. Such indicators include a decline in expected cash flows, a significant adverse change in legal factors or in the business climate, unanticipated competition, a decrease in our market capitalization to an amount less than the carrying value of our assets, or slower growth rates, among others.

Goodwill is allocated among and evaluated for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment. We have two reporting units: the FUEL CHEM segment and the APC technology segment. As of December 31, 2013 and 2012, goodwill allocated to the FUEL CHEM technology segment was \$1,723 and goodwill allocated to the APC technology segment was \$19,328.

Our evaluation of goodwill impairment involves first assessing qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. We may bypass this qualitative assessment, or determine that based on our qualitative assessment considering the totality of events and circumstances including macroeconomic factors, industry and market considerations, current and projected financial performance, a sustained decrease in our share price, or other factors, that additional impairment analysis is necessary. This additional analysis involves comparing the current fair value of a reporting unit to its carrying value. Fuel Tech uses a discounted cash flow (DCF) model to determine the current fair value of its two reporting units as this methodology was deemed to best quantify the present values of our expected future cash flows and yield a fair value that should be in line with the aggregate market value placed on the outstanding number of Common Shares as reflected by the current stock price multiplied by the outstanding common shares. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including markets and market share, sales volumes and prices, costs to produce and working capital changes. Events outside our control, specifically market conditions that impact revenue growth assumptions, could significantly impact the fair value calculated. Management considers historical experience and all available information at the time the fair values of its reporting units are estimated. However, actual fair values that could be realized in an actual transaction may differ from those used to evaluate the impairment of goodwill.

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The application of our DCF model in estimating the fair value of each reporting segment is based on the ‘income’ approach to business valuation. In using this approach for each reportable segment, we forecast segment revenues and expenses out to perpetuity and then discount the resulting cash flows to their present value using an appropriate discount rate. The forecast considers, among other items, the current and expected business environment, expected changes in the fixed and variable cost structure as the business grows, and a revenue growth rate that we feel is both achievable and sustainable. The discount rate used is composed of a number of identifiable risk factors, including equity risk, company size, and certain company specific risk factors such as our debt-to-equity ratio, among other factors, that when added together, results in a total return that a prudent investor would demand for an investment in our company.

In the event the estimated fair value of a reporting unit per the DCF model is less than the carrying value, additional analysis would be required. The additional analysis would compare the carrying amount of the reporting unit’s goodwill with the implied fair value of that goodwill, which would involve the use of valuation experts. The implied fair value of goodwill is the excess of the fair value of the reporting unit over the fair values assigned to all of the assets and liabilities of that unit as if the reporting unit was acquired in a business combination and the fair value of the reporting unit represented the purchase price. If the carrying value of goodwill exceeds its implied fair value, an impairment loss equal to such excess would be recognized, which could significantly and adversely impact reported results of operations and stockholders’ equity.

Based upon the nature of the goodwill recorded on the balance sheets as of December 31, 2013 and 2012, management believes that, in order for an impairment to occur, our actual revenue growth and associated operating margins in future periods would need to differ materially from the projected revenue growth and margin estimates included in our current cash flow forecasts, particularly as it relates to the APC reporting unit. In addition, other economic events may be indicators of impairment, such as suppressed consolidated revenues, a reduction in our market capitalization to an amount that is lower than our current enterprise value, reduced overall cash flows, or declining APC order backlog. Management does not believe that any of these events have resulted in any indications of asset impairment as it pertains to our business.

Impairment of Long-Lived Assets and Amortizable Intangible Assets

Long-lived assets, including property, plant and equipment (PP&E) and intangible assets, are reviewed for impairment when events and circumstances indicate that the carrying amount of the assets (or asset groups) may not be recoverable. If impairment indicators exist, we perform a more detailed analysis and an impairment loss is recognized when estimated future undiscounted cash flows expected to result from the use of the asset (or asset group) and its eventual disposition are less than the carrying amount. This process of analyzing impairment involves examining the operating condition of individual assets (or asset groups) and estimating a fair value based upon current condition, relevant market factors and remaining estimated operational life compared to the asset’s remaining depreciable life. Quoted market prices and other valuation techniques are used to determine expected cash flows. However, due to the nature of our PP&E, which is comprised mainly of assets related to our headquarters building and equipment deployed at customer locations for our FUEL CHEM programs, and the shorter-term duration over which FUEL CHEM equipment is depreciated, the likelihood of impairment is mitigated. The discontinuation of a FUEL CHEM program at a customer site would most likely result in the re-deployment of all or most of the affected assets to another customer location rather than an impairment.

Valuation Allowance for Deferred Income Taxes

Deferred tax assets represent deductible temporary differences and net operating loss and tax credit carryforwards. A valuation allowance is recognized if it is more likely than not that some portion of the deferred tax asset will not be realized. At the end of each reporting period, management reviews the realizability of the deferred tax assets. As part

of this review, we consider if there are taxable temporary differences that could generate taxable income in the future, if there is the ability to carry back the net operating losses or credits, if there is a projection of future taxable income, and if there are any tax planning strategies that can be readily implemented.

Stock-Based Compensation

We recognize compensation expense for employee equity awards ratably over the requisite service period of the award, adjusted for estimated forfeitures.

We utilize the Black-Scholes option-pricing model to estimate the fair value of stock option awards. Determining the fair value of stock options using the Black-Scholes model requires judgment, including estimates for (1) risk-free interest rate - an estimate based on the yield of zero-coupon treasury securities with a maturity equal to the expected life of the option; (2) expected volatility - an estimate based on the historical volatility of our Common Shares for a period equal to the expected life of the option; and (3) expected life of the option - an estimate based on historical experience including the effect of employee terminations.

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In addition, we utilize a Monte Carlo valuation pricing model to determine the fair value of certain restricted stock units (RSUs) that contain market conditions. Determining the fair value of these RSUs requires judgment and involves simulating potential future stock prices based on estimates for the risk-free interest rate, stock volatility, and correlations between our stock price and the stock prices of a peer group of companies.

If any of these assumptions differ significantly from actual results, stock-based compensation expense could be impacted.

Recently Adopted Accounting Standards

In February 2013, the FASB issued changes to the reporting of amounts reclassified out of accumulated other comprehensive income. These changes require an entity to report the effect of significant reclassifications out of accumulated other comprehensive income on the respective line items in net income if the amount being reclassified is required to be reclassified in its entirety to net income. For other amounts that are not required to be reclassified in their entirety to net income in the same reporting period, an entity is required to cross-reference other disclosures that provide additional detail about those amounts. These requirements are to be applied to each component of accumulated other comprehensive income. These changes were adopted by us on January 1, 2013 and did not have an impact on the Consolidated Financial Statements other than the additional disclosure requirements.

In February 2013, the FASB issued changes to the accounting for obligations resulting from joint and several liability arrangements. These changes require an entity to measure such obligations for which the total amount of the obligation is fixed at the reporting date as the sum of (i) the amount the reporting entity agreed to pay on the basis of its arrangement among its co-obligors, and (ii) any additional amount the reporting entity expects to pay on behalf of its co-obligors. An entity will also be required to disclose the nature and amount of the obligation as well as other information about those obligations. Examples of obligations subject to these requirements are debt arrangements and settled litigation and judicial rulings. These changes become effective for us on January 1, 2014. Management has determined that the adoption of these changes will not have an impact on the Consolidated Financial Statements, as we do not currently have any such arrangements.

In March 2013, the FASB issued changes to a parent entity's accounting for the cumulative translation adjustment upon derecognition of certain subsidiaries or groups of assets within a foreign entity or of an investment in a foreign entity. A parent entity is required to release any related cumulative foreign currency translation adjustment from accumulated other comprehensive income into net income in the following circumstances: (i) a parent entity ceases to have a controlling financial interest in a subsidiary or group of assets that is a business within a foreign entity if the sale or transfer results in the complete or substantially complete liquidation of the foreign entity in which the subsidiary or group of assets had resided; (ii) a partial sale of an equity method investment that is a foreign entity; (iii) a partial sale of an equity method investment that is not a foreign entity whereby the partial sale represents a complete or substantially complete liquidation of the foreign entity that held the equity method investment; and (iv) the sale of an investment in a foreign entity. These changes become effective for us on January 1, 2014. Management has determined that the adoption of these changes will need to be considered in the Consolidated Financial Statements in the event we initiate any of the transactions described above.

In July 2013, the FASB issued changes to the presentation of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. These changes require an entity to present an unrecognized tax benefit as a liability in the financial statements if (i) a net operating loss carryforward, a similar tax loss, or a tax credit carryforward is not available at the reporting date under the tax law of the applicable jurisdiction to settle any additional income taxes that would result from the disallowance of a tax position, or (ii) the tax law of the applicable jurisdiction does not require the entity to use, and the entity does not intend to use, the deferred tax asset to settle any additional income taxes that would result from the disallowance of a tax position. Otherwise, an unrecognized tax benefit is required to be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward. Previously, there was diversity in practice as no explicit guidance existed. These changes become effective for us on January 1, 2014. Management has determined that the adoption of these changes will not have a significant impact on the Consolidated Financial

Statements.

2013 versus 2012

Revenues for the years ended December 31, 2013 and 2012 were \$109,338 and \$97,644, respectively. The year-over-year increase of \$11,694, or 12%, was driven primarily by increased revenue in our APC technology segment. International revenues for the years ended December 31, 2013 and 2012 were \$46,063 and \$27,219, respectively, or 42% and 28% of consolidated revenues. The increase in our foreign revenues of \$18,844, or 69%, is primarily attributable to continued growth in our China operations as well work progress on our large project in Chile.

Revenues for the APC technology segment were \$72,552 for the year ended December 31, 2013, an increase of \$10,111, or 16%, versus fiscal 2012. This increase is predominantly attributed to increased orders for APC products primarily in foreign markets

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and the timing and recognition of work in progress on those APC orders. We expect demand for our APC products to remain strong based on new and existing air pollution control regulations around the world, particularly in China. Backlog for the years ended December 31, 2013 and 2012 was \$22.4 million and \$46.7 million, respectively.

Revenues for the FUEL CHEM technology segment for the year ended December 31, 2013 were \$36,786, an increase of \$1,583, or 4% versus fiscal 2012. The increase is due to a higher level of shipping activity at a few key existing customer accounts. However, the overall FUEL CHEM technology is still affected by the soft electric demand market and fuel switching as a result of low natural gas prices, which have led to unscheduled outages and coal consumption units operating at less than full capacity.

Cost of sales for the years ended December 31, 2013 and 2012 were \$62,521 and \$56,899, respectively. Gross margin percentage for the years ended December 31, 2013 and 2012 were 43% and 42%, respectively. The gross margins for the APC technology segment increased to 38% in 2013 from 36% in 2012. The increase is attributed to three significant domestic projects with gross margin percentages that are higher than average. Gross margin percentage for the FUEL CHEM technology segment increased slightly to 53% in 2013 from 52% in 2012.

Selling, general and administrative expenses for the years ended December 31, 2013 and 2012 were \$36,375 and \$32,682, respectively. The increase of \$3,693 or 11%, is primarily attributed to the following:

• An increase of costs associated with our international operations of \$1,345 due mainly to business expansion including increased personnel at our China and Chile subsidiaries

• An increase in domestic salaries, wages, benefits, commissions and bonuses totaling \$1,316 as a result of increased headcount as well as improved revenue and profits

• An increase in bad debt expense of \$407

• An increase in stock compensation expense of \$492

• A decrease in legal expenses, professional fees, and other outside services of \$321

Research and development (“R&D”) expenses were \$2,442 and \$2,863 for the years ended December 31, 2013 and 2012, respectively. We plan to continue focusing on increased R&D efforts in the pursuit of commercial applications for our technologies outside of our traditional markets, and in the development and analysis of new technologies that could represent incremental market opportunities.

Interest income for the year ended December 31, 2013 decreased by \$20 to \$58 versus \$78 in 2012. Interest expense of \$56 was recorded in 2013, compared to \$93 in the prior year. Finally, the increase in net other expenses is due primarily to the impact of foreign exchange rates as it relates to settlement of balances denominated in foreign currencies.

For the year ended December 31, 2013, we recorded income tax expense of \$2,764 on pre-tax income of \$7,865. Our effective tax rate of 35% exceeded the federal statutory rate of 34% as a result of increases from state taxes and losses from our Italian subsidiary for which we were not able to record a tax benefit as a result of the valuation allowance placed on that entity’s net operating losses. These increases were offset by research credits for 2012 and 2013 that were both recorded for financial reporting purposes during 2013 and the effect of income tax rate differences between the U.S and our foreign subsidiaries. For the year end December 31, 2012, we recorded an income tax expense of \$2,302 on pre-tax income of \$5,078.

2012 versus 2011

Revenues for the years ended December 31, 2012 and 2011 were \$97,644 and \$93,668, respectively. The year-over-year increase of \$3,976, or 4%, was predominantly driven by increased revenue in the APC technology segment, offset by reduced revenues in the FUEL CHEM segment. International revenues for the years ended December 31, 2012 and 2011 were \$27,219 and \$17,591, respectively, or 28% and 19% of consolidated revenues. The increase in our foreign revenues of \$9,628, or 55%, is primarily attributable to continued growth in our China operations as well as a large new project based in Chile.

Revenues for the APC technology segment were \$62,441 for the year ended December 31, 2012, an increase of \$11,511, or 23%, versus fiscal 2011. This increase is predominantly attributed to increased orders for APC products primarily in foreign markets and the timing and recognition of work in progress on those APC orders. We expect demand for our APC products to remain strong based on new and existing air pollution control regulations around the world, particularly in China. Backlog for the years ended December 31, 2012 and 2011 was \$46.7 million and \$30.8 million, respectively.

Revenues for the FUEL CHEM technology segment for the year ended December 31, 2012 were \$35,203, a decrease of \$7,535, or 18% versus fiscal 2011. The decrease is due to decreased sales volume at existing customer accounts in part due to the lower demands for electricity and fuel switching by customers to take advantage of low natural gas prices. These factors led to coal

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combustion units operating at less than full capacity which resulted in a corresponding decrease in our overall year-to-date revenue. Another factor contributing to the decrease in overall year-to-year revenues for 2012 was a non-recurring sale of installation-related work totaling \$1.3 million that occurred in 2011.

Cost of sales for the years ended December 31, 2012 and 2011 were \$56,899 and \$49,857, respectively. Cost of sales as a percentage of revenues for the years ended December 31, 2012 and 2011 were 58% and 53%, respectively. Cost of sales as a percentage of revenue for the APC technology segment increased to 64% in 2012 from 56% in 2011. The increase is attributed to an increase in lower margin international projects. Cost of sales as a percentage of revenue for the FUEL CHEM technology segment decreased to 48% in 2012 from 50% in 2011 due in part to a non-recurring sale of lower margin installation work recognized in the first two quarters of 2011, which diluted the margin percentage for that year-to-year period.

Selling, general and administrative expenses for the years ended December 31, 2012 and 2011 were \$32,682 and \$33,446, respectively. The decrease of \$764, or 2%, is primarily attributed to the following:

• A decrease in stock compensation expense of \$1,504.

• Internal commissions and bonuses decreased \$1,432 as a result of decreased profits in both of the product segments. A decrease in the 2011 contingent gain in the amount of \$758 related to the earn-out for the ACT acquisition

• A decrease in legal expenses of \$340.

• An increase of costs associated with our international operations of \$1,215 due mainly to increased personnel and business expansion of our China subsidiary.

• An increase in salaries and wages and other employee related expenses of \$752 as a result of an increase of headcount from 168 to 184.

Research and development (“R&D”) expenses were \$2,863 and \$1,474 for the years ended December 31, 2012 and 2011, respectively. The increase in R&D expenditures is aligned with our increased emphasis on investing in new product design and innovation for our product lines. We have maintained a focused approach in the pursuit of commercial applications for our technologies outside of our traditional markets, and in the development and analysis of new technologies that could represent incremental market opportunities domestically and abroad.

Interest income for the year ended December 31, 2012 increased by \$43 to \$78 versus 2011 predominantly due to an increase in the average return on our interest-bearing accounts in which the cash is invested. Interest expense of \$93 was recorded in 2012 on the debt incurred to start-up activities at our office in Beijing, China, compared to \$148 in the prior year. Finally, the decrease in other expense is due primarily to the impact of foreign exchange rates as it relates to settlement of balances denominated in foreign currencies.

For the year ended December 31, 2012, we recorded income tax expense of \$2,302 on pre-tax income of \$5,078. Our effective tax rate of 45.3% exceeded the federal statutory rate of 34% as a result of increases from state taxes, the effect of our permanent items, the effect of income tax rate differences between the U.S and China, and losses from our Italian subsidiary for which we were not able to record a tax benefit as a result of the valuation allowance placed on that entity’s net operating losses. These increases were offset by reductions in our reserves for uncertain tax positions related to research credits taken on our tax returns during 2008 through 2010. These reductions were the result of a lapse in the statute of limitations for the 2008 year and the settlement of our IRS audit examinations for the 2009 and 2010 tax years. For the year end December 31, 2011, we recorded an income tax expense of \$3,109 on pre-tax income of \$9,257.

Liquidity and Sources of Capital

At December 31, 2013, we had cash and cash equivalents of \$27,738 and working capital of \$48,619 versus cash and cash equivalents of \$24,453 and working capital of \$38,918 at December 31, 2012. Operating activities provided \$2,842 of cash for the year ended December 31, 2013, primarily due to the add back of non-cash items from our net income of \$5,101 including stock compensation expense of \$1,798, depreciation and amortization of \$3,014, as well as a decrease in our inventory, prepaid expenses and other current assets of \$2,195. Partially offsetting these items were increases in our accounts receivable balance of \$6,970, a decrease in our accounts payable of \$2,968, and a decrease in our accrued liabilities and other noncurrent liabilities of \$1,287.

Operating activities provided \$8,667 of cash for the year ended December 31, 2012, primarily due to the add back of non-cash items from our net income of \$2,776 including stock compensation expense of \$1,306, depreciation and amortization of \$3,089, as well as an increase in accounts payable of \$2,327 due to the timing of vendor invoices and related payments and a decrease in our accounts receivable balance of \$4,249 due to the timing of cash collections. Partially offsetting these items were subtractions

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of non-cash items from our net income including an increase in our deferred income tax provision of \$458, as well as an increase in our inventory, prepaid expenses, and other current assets of \$2,010, and a decrease in accrued liabilities and other noncurrent liabilities of \$2,579.

Investing activities used cash of \$1,754 and \$2,534 for the years ended December 31, 2013 and 2012, respectively, related to the purchases of equipment and patents to support the operations of our business.

Financing activities provided \$2,045 of cash for the year ended December 31, 2013 related primarily to borrowings on our China line of credit of \$1,614 and proceeds from the exercises of stock options in the amount of \$811. We used cash from financing activities for the year ended December 31, 2012 of \$9,115 related primarily to payments made on our debt in China in the amount of \$1,187 and for payments to repurchase our common stock in the amount of \$7,889.

On June 30, 2013, we amended our existing revolving credit facility (the Facility) with JPMorgan Chase Bank, N.A (JPM Chase) to extend the maturity date through June 30, 2015. The total borrowing base of the facility is \$15,000 and contains a provision to increase the facility up to a total principal amount of \$25,000 upon approval from JPM Chase. The Facility is unsecured, bears interest at a rate of LIBOR plus a spread range of 250 basis points to 375 basis points, as determined by a formula related to our leverage ratio, and is guaranteed by our Italian subsidiary, Fuel Tech S.r.l. We are allowed to use this Facility for cash advances and standby letters of credit. As of December 31, 2013 and 2012, there were no outstanding borrowings on the amended credit facilities.

The Facility contains several debt covenants with which we must comply on a quarterly or annual basis, including a maximum Funded Debt to EBITDA Ratio (or "Leverage Ratio", as defined in the Facility) of 2.0:1.0 based on the four trailing quarterly periods. Maximum funded debt is defined as all borrowed funds, outstanding standby letters of credit and bank guarantees. EBITDA includes after tax earnings with add backs for interest expense, income taxes, depreciation and amortization, and stock-based compensation expenses. In addition, the Facility covenants include an annual capital expenditure limit of \$10,000 and a minimum tangible net worth of \$55,000, adjusted upward for 50% of net income generated and 100% of all capital issuances. At December 31, 2013 we were in compliance with all financial covenants specified by the Facility.

At December 31, 2013 and 2012, we had outstanding standby letters of credit and bank guarantees totaling approximately \$3,478 and \$7,432, respectively, on our domestic credit facility in connection with contracts in process. We are committed to reimbursing the issuing bank for any payments made by the bank under these instruments. At December 31, 2013 and 2012, there were no cash borrowings under the domestic revolving credit facility and approximately \$11,522 and \$7,568, respectively, was available for future borrowings. We pay a commitment fee of 0.25% per year on the unused portion of the revolving credit facility.

On June 28, 2013, our wholly-owned subsidiary, Beijing Fuel Tech Environmental Technologies Company, Ltd. (Beijing Fuel Tech) entered into a new revolving credit facility (the China Facility) agreement with JPM Chase for RMB 35 million (approximately \$5,725), which expires on June 27, 2014. This new credit facility replaced the previous RMB 35 million facility that expired on June 28, 2013. The facility is unsecured, bears interest at a rate of 125% of the People's Bank of China (PBOC) Base Rate, and we have guaranteed BJFT's obligations under this facility. Beijing Fuel Tech can use this facility for cash advances and bank guarantees. As of December 31, 2013 and 2012, Beijing Fuel Tech had borrowings outstanding in the amount of \$1,636 and \$0, respectively. These borrowings were subject to interest rates of approximately 7.0% at December 31, 2013 and 2012.

At December 31, 2013 and 2012, we had outstanding standby letters of credit and bank guarantees totaling approximately \$646 and \$1,112, respectively, on our Beijing Fuel Tech revolving credit facility in connection with contracts in process. At December 31, 2013 and 2012, approximately \$3,443 and \$4,429 was available for future borrowings.

In the event of default on either the domestic facility or the China facility, the cross default feature in each allows the lending bank to accelerate the payments of any amounts outstanding and may, under certain circumstances, allow the bank to cancel the facility. If we were unable to obtain a waiver for a breach of covenant and the bank accelerated the

payment of any outstanding amounts, such acceleration may cause our cash position to deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require us to obtain alternate financing to satisfy the accelerated payment.

Interest payments in the amount of \$56 and \$93 were made during the years ended December 31, 2013 and 2012, respectively.

In the opinion of management, expected near-term revenue growth will be driven by the timing of penetration of the coal-fired utility marketplace via utilization of our TIFI technology, by utility and industrial entities' adherence to the NO_x reduction requirements of the various domestic environmental regulations, and by the expansion of both business segments in non-U.S. geographies. Management expects our liquidity requirements to be met by the operating results generated from these activities.

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Contractual Obligations and Commitments

In our normal course of business, we enter into agreements obligating us to make future payments. The contractual cash obligations noted below are primarily related to supporting the ongoing operations of the business.

Payments due by period in thousands of dollars

Contractual Cash Obligations	Total	2014	2015-2016	2017-2018	Thereafter
Operating lease obligations	\$2,783	\$607	\$860	\$858	\$458
Beijing Fuel Tech credit facility	\$1,636	\$1,636	\$—	\$—	\$—
Total	\$4,419	\$2,243	\$860	\$858	\$458

Interest payments in the amount of \$56, \$93, and \$148 were made during the years ended December 31, 2013, 2012 and 2011, respectively.

In the normal course of our business, we use bank performance guarantees and letters of credit in support of construction contracts with customers as follows:

- in support of the warranty period defined in the contract; or
- in support of the system performance criteria that are defined in the contract.

In addition, we use bank performance guarantees with standby letters of credit and performance surety bonds as security for contract performance and other obligations as needed in the normal course of business. As of December 31, 2013, we had outstanding bank performance obligations that may or may not result in cash obligations as follows:

Commitment expiration by period in thousands of dollars

Commercial Commitments	Total	2014	2015	2016	Thereafter
Standby letters of credit and bank guarantees	\$4,124	\$2,972	\$430	\$722	\$—
Performance Surety Bonds	\$—	\$—	\$—	\$—	\$—
Total	\$4,124	\$2,972	\$430	\$722	\$—

Off-Balance-Sheet Transactions

There were no other off-balance-sheet transactions other than the obligations and commitments listed above during the three-year period ended December 31, 2013.

ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our earnings and cash flow are subject to fluctuations due to changes in foreign currency exchange rates. We do not enter into foreign currency forward contracts or into foreign currency option contracts to manage this risk due to the nature of the transactions involved.

We are also exposed to changes in interest rates primarily due to our debt arrangement (refer to Note 9 to the consolidated financial statements). A hypothetical 100 basis point adverse move in interest rates along the entire interest rate yield curve would not have a materially adverse effect on interest expense during the upcoming year ended December 31, 2014.

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ITEM 8 - FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders

Fuel Tech, Inc.

We have audited the accompanying consolidated balance sheets of Fuel Tech, Inc. as of December 31, 2013 and 2012, and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2013. We also have audited Fuel Tech, Inc.'s internal control over financial reporting as of December 31, 2013, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in 1992. Fuel Tech, Inc.'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 the accompanying Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our 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 (a) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (b) 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 (c) 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.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Fuel Tech, Inc. as of December 31, 2013 and 2012, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2013, in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, Fuel Tech, Inc. maintained, in all

material respects, effective internal control over financial reporting as of December 31, 2013, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in 1992.

/s/ McGladrey LLP

Schaumburg, Illinois
March 10, 2014

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Fuel Tech, Inc.

Consolidated Balance Sheets

(in thousands of dollars, except share and per-share data)

	December 31,	
	2013	2012
ASSETS		
Current assets:		
Cash and cash equivalents	\$27,738	\$24,453
Marketable securities	30	44
Accounts receivable, net	36,974	30,169
Inventories	443	513
Prepaid expenses and other current assets	2,196	3,956
Income taxes receivable	1,407	156
Deferred income taxes	477	573
Total current assets	69,265	59,864
Property and equipment, net	13,027	13,749
Goodwill	21,051	21,051
Other intangible assets, net	4,305	4,838
Deferred income taxes	—	3,688
Other assets	2,410	2,707
Total assets	\$110,058	\$105,897
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term debt	\$1,636	\$—
Accounts payable	9,920	12,828
Accrued liabilities:		
Employee compensation	4,460	3,175
Other accrued liabilities	4,630	4,943
Total current liabilities	20,646	20,946
Deferred income taxes	59	—
Other liabilities	730	715
Total liabilities	21,435	21,661
COMMITMENTS AND CONTINGENCIES (Note 8)		
Stockholders' equity:		
Common stock, \$.01 par value, 40,000,000 shares authorized, 22,701,613 and 22,111,675 shares issued, and 22,592,956 and 22,102,549 outstanding in 2013 and 2012, respectively	227	221
Additional paid-in capital	132,796	133,498
Accumulated deficit	(44,027	) (49,128)
Accumulated other comprehensive income (loss)	37	(392)
Nil coupon perpetual loan notes	76	76
Treasury stock, 108,657 and 9,126 shares in 2013 and 2012, respectively, at cost	(486	) (39)
Total stockholders' equity	88,623	84,236
Total liabilities and stockholders' equity	\$110,058	\$105,897

See notes to consolidated financial statements.

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Fuel Tech, Inc.

Consolidated Statements of Operations

(in thousands of dollars, except share and per-share data)

	For the years ended December 31,		
	2013	2012	2011
Revenues	\$109,338	\$97,644	\$93,668
Costs and expenses:			
Cost of sales	62,521	56,899	49,857
Selling, general and administrative	36,375	32,682	33,446
Gain on revaluation of ACT liability	—	—	(758)
Research and development	2,442	2,863	1,474
	101,338	92,444	84,019
Operating income	8,000	5,200	9,649
Interest expense	(56)	(93)	(148)
Interest income	58	78	35
Other expense	(137)	(107)	(279)
Income before taxes	7,865	5,078	9,257
Income tax expense	(2,764)	(2,302)	(3,109)
Net income	\$5,101	\$2,776	\$6,148
Net income per common share:			
Basic	\$0.23	\$0.12	\$0.26
Diluted	\$0.23	\$0.12	\$0.25
Weighted-average number of common shares outstanding:			
Basic	22,286,000	22,709,000	24,095,000
Diluted	22,579,000	23,535,000	24,633,000

See notes to consolidated financial statements.

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Fuel Tech, Inc.
 Consolidated Statements of Comprehensive Income
 (in thousands of dollars)

	For the years ended December 31,		
	2013	2012	2011
Net income	\$5,101	\$2,776	\$6,148
Other comprehensive income (loss):			
Foreign currency translation adjustments	438	(765	) 103
Unrealized (losses)/gains from marketable securities, net of tax	(9	) (8	) 35
Total other comprehensive income (loss)	429	(773	) 138
Comprehensive income	\$5,530	\$2,003	\$6,286
See notes to consolidated financial statements.			

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Fuel Tech, Inc.

Consolidated Statements of Stockholders' Equity

(in thousands of dollars or shares, as appropriate)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Nil Coupon Perpetual Loan Notes	Treasury Stock	Total
	Shares	Amount						
Balance at December 31, 2010	24,213	\$242	\$129,424	\$(46,075)	\$ 243	\$ 76	\$—	\$83,910
Net income				6,148				6,148
Foreign currency translation adjustments					103			103
Unrealized gain on marketable securities, net of tax					35			35
Exercise of stock options	81	1	375					376
Tax benefit from stock compensation expense			77					77
Stock compensation expense			2,810					2,810
Issuance of deferred shares of stock	51	1	(1)					—
Tax effect of expired vested options			(335)					(335)
Repurchases and retirement of common shares	(701)	(7)		(4,104)				(4,111)
Balance at December 31, 2011	23,644	\$237	\$132,350	\$(44,031)	\$ 381	\$ 76	\$—	\$89,013
Net income				2,776				2,776
Foreign currency translation adjustments					(765)			(765)
Unrealized loss on marketable securities, net of tax					(8)			(8)
Stock compensation expense			1,248					1,248
Issuance of deferred shares of stock			58					58
Tax effect of expired vested options			(57)					(57)
Repurchases and retirement of common shares	(1,605)	(16)		(7,873)				(7,889)
Common shares issued upon vesting of restricted stock units	72		(101)					(101)

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Treasury shares withheld	(9)						(39)	(39)
Balance at December 31, 2012	22,102	\$221	\$133,498	\$(49,128)	\$(392)	\$ 76	\$(39)	\$84,236
Net income				5,101				5,101
Foreign currency translation adjustments					438			438
Unrealized loss on marketable securities, net of tax					(9)			(9)
Stock compensation expense			1,798					1,798
Exercise of stock options	195	2	809					811
Tax benefit from stock compensation expense			67					67
Tax effect of expired vested options			(121)					(121)
Common shares issued upon vesting of restricted stock units	395	4	(3,255)					(3,251)
Treasury shares withheld	(99)						(447)	(447)
Balance at December 31, 2013	22,593	\$227	\$132,796	\$(44,027)	\$ 37	\$ 76	\$(486)	\$88,623

See notes to consolidated financial statements.

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Fuel Tech, Inc.

Consolidated Statements of Cash Flows

(in thousands of dollars)

	For the years ended December 31,		
	2013	2012	2011
OPERATING ACTIVITIES			
Net income	\$5,101	\$2,776	\$6,148
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	2,175	2,191	2,808
Amortization	839	898	912
(Gain) loss on equipment disposals/impaired assets	—	(72)	) 56
Gain on revaluation of ACT liability	—	—	(758)
Unrealized holding loss (gain) on marketable securities	—	13	(21)
Allowance for doubtful accounts	707	26	348
Deferred income taxes	1,252	(458)	) 793
Stock compensation expense	1,798	1,306	2,810
Changes in operating assets and liabilities:			
Accounts receivable	(6,970)	) 4,249	(13,279)
Inventories	77	(202)	) 504
Prepaid expenses, other current assets and other noncurrent assets	2,118	(1,808)	) (723)
Accounts payable	(2,968)	) 2,327	2,914
Accrued liabilities and other noncurrent liabilities	(1,287)	) (2,579)	) 2,346
Net cash provided by operating activities	2,842	8,667	4,858
INVESTING ACTIVITIES			
Purchases of property, equipment and patents	(1,754)	) (2,534)	) (2,408)
Proceeds from the sale of equipment	—	—	2
Net cash used in investing activities	(1,754)	) (2,534)	) (2,406)
FINANCING ACTIVITIES			
Net proceeds (payments) of short-term debt	1,614	(1,187)	) (1,162)
Proceeds from exercises of stock options	811	—	376
Excess tax benefit from exercises of stock options	67	—	77
Repurchases of common stock	—	(7,889)	) (4,111)
Treasury shares withheld	(447)	) (39)) —
Net cash provided by (used in) financing activities	2,045	(9,115)	) (4,820)
Effect of exchange rate fluctuations on cash	152	(794)	) 73
Net increase (decrease) in cash and cash equivalents	3,285	(3,776)	) (2,295)
Cash and cash equivalents at beginning of year	24,453	28,229	30,524
Cash and cash equivalents at end of year	\$27,738	\$24,453	\$28,229
Supplemental Cash Flow Information:			
Non-cash activities:			
Decrease in contingent consideration payable	\$—	\$—	) (\$758)
Cash paid for:			
Interest	\$56	\$93	\$148
Income taxes paid	\$2,901	\$2,043	\$5,187

See notes to consolidated financial statements.

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Notes to Consolidated Financial Statements
(in thousands of dollars, except share and per-share data)

1. ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES

Organization

We provide advanced engineered solutions for the optimization of combustion systems in utility and industrial applications. Our primary focus is on the worldwide marketing and sale of NOx reduction technologies as well as our FUEL CHEM program. The Company's NOx reduction technologies reduce nitrogen oxide emissions from boilers, furnaces and other stationary combustion sources.

Our FUEL CHEM program is based on proprietary TIFI® Targeted In-Furnace™ Injection technology, in combination with advanced Computational Fluid Dynamics (CFD) and Chemical Kinetics Modeling (CKM) boiler modeling, in the unique application of specialty chemicals to improve the efficiency, reliability and environmental status of combustion units by controlling slagging, fouling, corrosion, opacity and other sulfur trioxide-related issues in the boiler.

Our business is materially dependent on the continued existence and enforcement of air quality regulations, particularly in the United States. We have expended significant resources in the research and development of new technologies in building our proprietary portfolio of air pollution control, fuel and boiler treatment chemicals, computer modeling and advanced visualization technologies.

International revenues were \$46,063, \$27,219, and \$17,591 for the years ended December 31, 2013, 2012 and 2011, respectively. These amounts represented 42%, 28%, and 19% of Fuel Tech's total revenues for the respective periods of time. Foreign currency changes did not have a material impact on the calculation of these percentages. we have foreign offices in Beijing, China and Gallarate, Italy.

Basis of Presentation

The consolidated financial statements include the accounts of Fuel Tech and its wholly-owned subsidiaries. All intercompany transactions have been eliminated.

Use of Estimates

The preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. The Company uses estimates in accounting for, among other items, revenue recognition, allowance for doubtful accounts, income tax provisions and warranty expenses. Actual results could differ from those estimates.

Fair Value of Financial Instruments

The carrying values of cash and cash equivalents, accounts receivable, and accounts payable are reasonable estimates of their fair value due to their short-term nature. The carrying amount of our short-term debt under our revolving line of credit facility approximates fair value due to its short-term nature and because the amount outstanding accrues interest at a variable market-based rate. Our marketable securities are carried at fair value based on quoted market prices in an active market.

Cash and Cash Equivalents

We include cash and investments having an original maturity of three months or less at the time of acquisition in cash and cash equivalents. We have never incurred realized or unrealized holdings gains or losses on securities classified as cash equivalents. Income resulting from short-term investments is recorded as interest income. At December 31, 2013, we had cash on hand of approximately \$1,161 at our Beijing, China subsidiary that is subject to certain local regulations that may limit the immediate availability of these funds outside of China.

Foreign Currency Risk Management

Our earnings and cash flows are subject to fluctuations due to changes in foreign currency exchange rates. We do not enter into foreign currency forward contracts or into foreign currency option contracts to manage this risk due to the nature of the transactions involved.

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Accounts Receivable

Accounts receivable consist of amounts due to us in the normal course of our business, are not collateralized, and normally do not bear interest. Accounts receivable includes unbilled receivables, representing costs and estimated earnings in excess of billings on uncompleted contracts under the percentage of completion method. At December 31, 2013 and 2012, unbilled receivables were approximately \$12,599 and \$15,661, respectively.

Allowance for Doubtful Accounts

The allowance for doubtful accounts is our management's best estimate of the amount of credit losses in accounts receivable. In order to control and monitor the credit risk associated with our customer base, we review the credit worthiness of customers on a recurring basis. Factors influencing the level of scrutiny include the level of business the customer has with Fuel Tech, the customer's payment history, and the customer's financial stability. Receivables are considered past due if payment is not received by the date agreed upon with the customer, which is normally 30 days. Representatives of our management team review all past due accounts on a weekly basis to assess collectability. At the end of each reporting period, the allowance for doubtful accounts balance is reviewed relative to management's collectability assessment and is adjusted if deemed necessary through a corresponding charge or credit to bad debts expense, which is included in selling, general, and administrative expenses in the consolidated statements of operations. Bad debt write-offs are made when management believes it is probable a receivable will not be recovered. The table below sets forth the components of the Allowance for Doubtful Accounts for the years ended December 31.

Year	Balance at January 1	Provision charged to expense	Write-offs / Recoveries	Balance at December 31
2011	\$82	\$ 510	\$(162)	\$430
2012	\$430	\$ 246	\$(216)	\$460
2013	\$460	\$ 1,175	\$(446)	\$1,189

Inventories

Inventories consist primarily of spare parts and are stated at the lower of cost or market using the first-in, first-out method. Usage is recorded in cost of sales in the period that parts were issued to a project or used to service equipment. Inventories are periodically evaluated to identify obsolete or otherwise impaired parts and are written off when management determines usage is not probable.

Foreign Currency Translation and Transactions

Assets and liabilities of consolidated foreign subsidiaries are translated into U.S. dollars at exchange rates in effect at year end. Revenues and expenses are translated at average exchange rates prevailing during the year. Gains or losses on foreign currency transactions and the related tax effects are reflected in net income. The resulting translation adjustments are included in stockholders' equity as part of accumulated other comprehensive income.

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Accumulated Other Comprehensive Income (Loss)

The changes in accumulated other comprehensive income (loss) by component were as follows:

	December 31,	
	2013	2012
Foreign currency translation		
Balance at beginning of period	\$(420	) \$345
Other comprehensive income (loss):		
Foreign currency translation adjustments (1)	438	(765)
Balance at end of period	\$18	\$(420)
Available-for-sale marketable securities		
Balance at beginning of period	\$28	\$36
Other comprehensive income (loss):		
Net unrealized holding gain (loss) (2)	(14	) (8)
Deferred income taxes (2)	5	—
Total other comprehensive income (loss)	(9	) (8)
Balance at end of period	\$19	\$28
Total accumulated other comprehensive income (loss)	\$37	\$(392)

(1) In all periods presented, there were no tax impacts related to rate changes and no amounts were reclassified to earnings.

(2) In all periods presented, there were no realized holding gains or losses and therefore no amounts were reclassified to earnings.

Research and Development

Research and development costs are expensed as incurred. Research and development projects funded by customer contracts are reported as part of cost of goods sold. Internally funded research and development expenses are reported as operating expenses.

Product/System Warranty

We typically warrant our air pollution control products and systems against defects in design, materials and workmanship for one to two years. A provision for estimated future costs relating to warranty expense is recorded when the products/systems become commercially operational.

Goodwill and Other Intangibles

Goodwill and indefinite-lived intangible assets are not amortized, but are reviewed annually or more frequently if indicators arise, for impairment. Our evaluation of goodwill impairment involves first assessing qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. We may bypass this qualitative assessment, or determine that based on our qualitative assessment considering the totality of events and circumstances including macroeconomic factors, industry and market considerations, current and projected financial performance, a sustained decrease in our share price, or other factors, that additional impairment analysis is necessary. This additional analysis involves comparing the current fair value of our reporting units to their carrying values. We use a discounted cash flow (DCF) model to determine the current fair value of its two reporting units. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including markets and market share, sales volumes and prices, costs to produce and working capital changes. Management considers historical experience and all available information at the time the fair values of its reporting units are estimated. However, actual fair values that could be realized in an actual transaction may differ from those used to evaluate the impairment of goodwill.

Goodwill is allocated among and evaluated for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment. We have two reporting units: the FUEL CHEM technology segment and the APC technology segment. At December 31, 2013 and 2012, goodwill allocated to the FUEL CHEM technology segment was \$1,723 while goodwill allocated to the APC technology segment was \$19,328.

Goodwill is allocated to each of our reporting units after considering the nature of the net assets giving rise to the goodwill and how each reporting unit would enjoy the benefits and synergies of the net assets acquired. Our fair value measurement test, performed annually as of October 1, revealed no indications of impairment.

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Management reviews other intangible assets, which include customer lists and relationships, covenants not to compete, patent assets, tradenames, and acquired technologies, for impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. In the event that impairment indicators exist, a further analysis is performed and if the sum of the expected undiscounted future cash flows resulting from the use of the asset is less than the carrying amount of the asset, an impairment loss equal to the excess of the asset's carrying value over its fair value is recorded. Management considers historical experience and all available information at the time the estimates of future cash flows are made, however, the actual cash values that could be realized may differ from those that are estimated. For the years ended December 31, 2013, 2012 and 2011, there were no material impairment losses.

Third-party costs related to the development of patents are included within other intangible assets on the consolidated balance sheets. As of December 31, 2013 and 2012, the net patent asset balance, excluding patents acquired in business acquisitions, was \$1,273 and \$1,026, respectively. The third-party costs capitalized as patent costs during the years ended December 31, 2013 and 2012 were \$305 and \$313, respectively. Third-party costs are comprised of legal fees that relate to the review and preparation of patent disclosures and filing fees incurred to present the patents to the required governing body.

Our intellectual property portfolio has been a significant building block for the Air Pollution Control and FUEL CHEM technology segments. The patents are essential to the generation of revenue for our businesses and are essential to protect us from competition in the markets in which we serve. These costs are being amortized on the straight-line method over the period beginning with the patent issuance date and ending on the patent expiration date. Patent maintenance fees are charged to operations as incurred.

Amortization expense for intangible assets was \$839, \$898 and \$912 for the years ended December 31, 2013, 2012 and 2011, respectively. The table below shows the amortization period and other intangible asset cost by intangible asset as of December 31, 2013 and 2012, and the accumulated amortization and net intangible asset value in total for all other intangible assets.

Description of Other Intangible	Amortization Period	2013			2012		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Customer lists	3-15 years	\$4,567	\$ (2,541)	\$2,026	\$4,567	\$ (2,186)	\$2,381
Tradenames	8 years	351	(219)	132	351	(175)	176
Patent assets	12-18 years	2,388	(822)	1,566	2,083	(667)	1,416
Covenants not to compete	5-6 years	376	(376)	—	376	(313)	63
Acquired technologies	7-8 years	1,731	(1,150)	581	1,731	(929)	802
Total		\$9,413	\$ (5,108)	\$4,305	\$9,108	\$ (4,270)	\$4,838

The table below shows the estimated future amortization expense for intangible assets:

Year	Estimated Amortization Expense
2014	\$777
2015	745
2016	725
2017	414
2018	394
Thereafter	1,250
Total	\$4,305

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Property and Equipment

Property and equipment is stated at historical cost. Provisions for depreciation are computed by the straight-line method, using estimated useful lives that range based on the nature of the asset. Leasehold improvements are depreciated over the shorter of the associated lease term or the estimated useful life of the asset. Depreciation expense was \$2,175, \$2,191, and \$2,808 for the years ended December 31, 2013, 2012 and 2011, respectively. The table below shows the depreciable life and cost by asset class as of December 31, 2013 and 2012, and the accumulated depreciation and net book value in total for all classes of assets.

Description of Property and Equipment	Depreciable Life	2013	2012
Land		\$1,440	\$1,440
Building	39 years	4,535	4,535
Building and leasehold improvements	3-39 years	4,898	4,480
Field equipment	3-4 years	18,006	17,746
Computer equipment and software	2-3 years	2,677	3,151
Furniture and fixtures	3-10 years	1,512	1,782
Vehicles	5 years	36	36
Total cost		33,104	33,170
Less accumulated depreciation		(20,077	) (19,421
Total net book value		\$13,027	\$13,749

Property and equipment is reviewed for impairment when events and circumstances indicate that the carrying amount of the assets (or asset groups) may not be recoverable. If impairment indicators exist, we perform a more detailed analysis and an impairment loss is recognized when estimated future undiscounted cash flows expected to result from the use of the asset (or asset group) and its eventual disposition are less than the carrying amount. This process of analyzing impairment involves examining the operating condition of individual assets (or asset groups) and estimating a fair value based upon current condition, relevant market factors and remaining estimated operational life compared to the asset's remaining depreciable life. Quoted market prices and other valuation techniques are used to determine expected cash flows. However, due to the nature of our property and equipment, which is comprised mainly of assets related to our headquarters building and equipment deployed at customer locations for our FUEL CHEM programs, and the shorter-term duration over which FUEL CHEM equipment is depreciated, the likelihood of impairment is mitigated. The discontinuation of a FUEL CHEM program at a customer site would result in the re-deployment of all or most of the effected assets to another customer location rather than impairment.

Revenue Recognition

Revenues from the sales of chemical products are recorded when title transfers, either at the point of shipment or at the point of destination, depending on the contract with the customer.

We utilize the percentage of completion method of accounting for equipment construction and license contracts that are sold within the Air Pollution Control technology segment. Under the percentage of completion method, revenues are recognized as work is performed based on the relationship between actual construction costs incurred and total estimated costs at completion. Construction costs include all direct costs such as materials, labor, subcontracting costs, and indirect costs allocable to the particular contract such as indirect labor, tools and equipment, and supplies.

Revisions in completion estimates and contract values are made in the period in which the facts giving rise to the revisions become known and can influence the timing of when revenues are recognized under the percentage of completion method of accounting. Such revisions have historically not had a material effect on the amount of revenue recognized. Provisions are made for estimated losses on uncompleted contracts in the period in which such losses are determined. The completed contract method is used for certain contracts when reasonably dependable estimates of the percentage of completion cannot be made. When the completed contract method is used, revenue and costs are deferred until the contract is substantially complete, which usually occurs upon customer acceptance of the installed product.

Cost of Sales

Cost of sales includes all internal and external engineering costs, equipment and chemical charges, inbound and outbound freight expenses, internal and site transfer costs, installation charges, purchasing and receiving costs, inspection costs, warehousing costs, project personnel travel expenses and other direct and indirect expenses specifically identified as project- or product line-related, as appropriate (e.g., test equipment depreciation and certain insurance expenses). Certain depreciation and amortization expenses related to tangible and intangible assets, respectively, are allocated to cost of sales.

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Selling, General and Administrative Expenses

Selling, general and administrative expenses primarily include the following categories except where an allocation to the cost of sales line item is warranted due to the project- or product-line nature of a portion of the expense category: salaries and wages, employee benefits, non-project travel, insurance, legal, rent, accounting and auditing, recruiting, telephony, employee training, Board of Directors' fees, auto rental, office supplies, dues and subscriptions, utilities, real estate taxes, commissions and bonuses, marketing materials, postage and business taxes. Departments comprising the selling, general and administrative line item primarily include the functions of executive management, finance and accounting, investor relations, regulatory affairs, marketing, business development, information technology, human resources, sales, legal and general administration.

Distribution Costs

We classify shipping and handling costs in cost of sales in the consolidated statements of operations.

Income Taxes

The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, the provision for income taxes represents income taxes paid or payable (or received or receivable) for the current year plus the change in deferred taxes during the year. Deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid, and result from differences between the financial and tax bases of our assets and liabilities and are adjusted for changes in tax rates and tax laws when enacted. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management considers all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, projections of future profitability within the carryforward period, including from tax planning strategies, and our experience with similar operations. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of a deferred tax asset based on existing projections of income. Deferred tax assets for which no valuation allowance is recorded may not be realized upon changes in facts and circumstances.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the statute of limitation has expired or the appropriate taxing authority has completed their examination even though the statute of limitations remains open. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized.

Stock-Based Compensation

Our stock-based employee compensation plan, referred to as the Fuel Tech, Inc. Incentive Plan (Incentive Plan), allows for awards to be granted to participants in the form of Non-Qualified Stock Options, Incentive Stock Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Awards, Bonuses or other forms of share-based or non-share-based awards or combinations thereof. Participants in the Incentive Plan may be our directors, officers, employees, consultants or advisors (except consultants or advisors in capital-raising transactions) as the directors determine are key to the success of our business. The amount of shares that may be issued or reserved for awards to participants under a 2004 amendment to the Incentive Plan is 12.5% of outstanding shares calculated on a diluted basis.

Basic and Diluted Earnings per Common Share

Basic earnings per share excludes the antidilutive effects of stock options, restricted stock units (RSUs) and the nil coupon non-redeemable convertible unsecured loan notes (see Note 6). Diluted earnings per share includes the dilutive effect of the nil coupon non-redeemable convertible unsecured loan notes, RSUs, and unexercised in-the-money stock options, except in periods of net loss where the effect of these instruments is antidilutive. Out-of-the-money stock options are excluded from diluted earnings per share because they are anti-dilutive. At December 31, 2013, 2012 and

2011, we had outstanding equity awards of 1,623,000, 1,507,000 and 1,368,000, respectively, that were antidilutive for the purpose of inclusion in the diluted earnings per share calculation because the exercise prices of the options were greater than the average market price of our common stock. These equity awards could potentially dilute basic EPS in future years.

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The table below sets forth the weighted-average shares used at December 31 in calculating earnings (loss) per share:

	2013	2012	2011
Basic weighted-average shares	22,286,000	22,709,000	24,095,000
Conversion of unsecured loan notes	7,000	7,000	7,000
Unexercised options and unvested restricted stock units	286,000	819,000	531,000
Diluted weighted-average shares	22,579,000	23,535,000	24,633,000

Risk Concentrations

Financial instruments that potentially subject the Company to a significant concentration of credit risk consist primarily of cash and cash equivalents and accounts receivable. The Company maintains deposits in federally insured financial institutions in excess of federally insured limits. However, management believes the Company is not exposed to significant credit risk due to the financial position of its primary depository institution where a significant portion of its deposits are held.

For the year ended December 31, 2013, we had two customers which individually represented greater than 10% of revenues. One of these customers contributed primarily to our FUEL CHEM technology segment and represented 14% of consolidated revenues. The other customer contributed to our APC technology segment and represented 18% of our consolidated revenues. We had no customers that accounted for greater than 10% of our net accounts receivable balance as of December 31, 2013.

For the year ended December 31, 2012, we had one customer which individually represented greater than 10% of revenues. The customer contributed primarily to our FUEL CHEM technology segment and represented 16% of consolidated revenues. We had no customers that accounted for greater than 10% of our net accounts receivable balance as of December 31, 2012.

For the year ended December 31, 2011, we had two customers which individually represented greater than 10% of revenues. One of these customers contributed primarily to our FUEL CHEM technology segment and represented 16% of consolidated revenues. The other customer contributed to our APC technology segment and represented 13% of our consolidated revenues. We had no customers that accounted for greater than 10% of our net accounts receivable balance as of December 31, 2011.

We control credit risk through requiring milestone payments on long-term contracts, performing ongoing credit evaluations of its customers, and in some cases obtaining security for payment through bank guarantees and letters of credit.

Available-for-Sale Marketable Securities

At the time of purchase, marketable securities are classified as available-for-sale as management has the intent and ability to hold such securities for an indefinite period of time, but not necessarily to maturity. Any decision to sell available-for-sale securities would be based on various factors, including, but not limited to asset/liability management strategies, changes in interest rates or prepayment risks and liquidity needs. Available-for-sale securities are carried at fair value with unrealized gains and losses, net of related deferred income taxes, recorded in equity as a separate component of other comprehensive income (OCI). Our marketable securities consist of a single equity investment with a fair value of \$30 and \$44 at December 31, 2013 and December 31, 2012, respectively. Purchases and sales of securities are recognized on a trade date basis. Realized securities gains or losses are reported in other income/(expense) in the Consolidated Statements of Operations. The cost of securities sold is based on the specific identification method. On a quarterly basis, we make an assessment to determine if there have been any events or circumstances to indicate whether a security with an unrealized loss is impaired on an other-than-temporary (OTTI) basis. This determination requires significant judgment. OTTI is considered to have occurred (1) if management intends to sell the security, (2) if it is more likely than not we will be required to sell the security before recovery of its amortized cost basis; or (3) the present value of the expected cash flows is not sufficient to recover the entire amortized cost basis. The credit-related OTTI, represented by the expected loss in principal, is recognized in non-interest income, while noncredit-related OTTI is recognized in OCI. For securities which we do expect to sell, all OTTI is recognized in earnings. Presentation of OTTI is made in the income statement on a gross basis with a reduction for the amount of OTTI recognized in OCI. Once an other-than-temporary impairment is recorded, when

future cash flows can be reasonably estimated, future cash flows are re-allocated between interest and principal cash flows to provide for a level-yield on the security. We have not experienced any other-than-temporary impairments during the periods ended December 31, 2013, 2012 and 2011.

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Treasury Stock

We use the cost method to account for its common stock repurchases. During the years ended December 31, 2013 and 2012, we withheld 99,531 and 9,126 shares of our Common Shares, valued at approximately \$447 and \$39, respectively, to settle personal tax withholding obligations that arose as a result of restricted stock units that vested. Refer to Note 5, "Treasury Stock," for further discussion.

Recently Issued and Adopted Accounting Standards

In February 2013, the FASB issued changes to the reporting of amounts reclassified out of accumulated other comprehensive income. These changes require an entity to report the effect of significant reclassifications out of accumulated other comprehensive income on the respective line items in net income if the amount being reclassified is required to be reclassified in its entirety to net income. For other amounts that are not required to be reclassified in their entirety to net income in the same reporting period, an entity is required to cross-reference other disclosures that provide additional detail about those amounts. These requirements are to be applied to each component of accumulated other comprehensive income. These changes were adopted by Fuel Tech on January 1, 2013 and did not have an impact on the Consolidated Financial Statements other than the additional disclosure requirements.

In February 2013, the FASB issued changes to the accounting for obligations resulting from joint and several liability arrangements. These changes require an entity to measure such obligations for which the total amount of the obligation is fixed at the reporting date as the sum of (i) the amount the reporting entity agreed to pay on the basis of its arrangement among its co-obligors, and (ii) any additional amount the reporting entity expects to pay on behalf of its co-obligors. An entity will also be required to disclose the nature and amount of the obligation as well as other information about those obligations. Examples of obligations subject to these requirements are debt arrangements and settled litigation and judicial rulings. These changes become effective for us on January 1, 2014. Management has determined that the adoption of these changes will not have an impact on the Consolidated Financial Statements, as we do not currently have any such arrangements.

In March 2013, the FASB issued changes to a parent entity's accounting for the cumulative translation adjustment upon derecognition of certain subsidiaries or groups of assets within a foreign entity or of an investment in a foreign entity. A parent entity is required to release any related cumulative foreign currency translation adjustment from accumulated other comprehensive income into net income in the following circumstances: (i) a parent entity ceases to have a controlling financial interest in a subsidiary or group of assets that is a business within a foreign entity if the sale or transfer results in the complete or substantially complete liquidation of the foreign entity in which the subsidiary or group of assets had resided; (ii) a partial sale of an equity method investment that is a foreign entity; (iii) a partial sale of an equity method investment that is not a foreign entity whereby the partial sale represents a complete or substantially complete liquidation of the foreign entity that held the equity method investment; and (iv) the sale of an investment in a foreign entity. These changes become effective for us on January 1, 2014. Management has determined that the adoption of these changes will need to be considered in the Consolidated Financial Statements in the event we initiate any of the transactions described above.

In July 2013, the FASB issued changes to the presentation of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. These changes require an entity to present an unrecognized tax benefit as a liability in the financial statements if (i) a net operating loss carryforward, a similar tax loss, or a tax credit carryforward is not available at the reporting date under the tax law of the applicable jurisdiction to settle any additional income taxes that would result from the disallowance of a tax position, or (ii) the tax law of the applicable jurisdiction does not require the entity to use, and the entity does not intend to use, the deferred tax asset to settle any additional income taxes that would result from the disallowance of a tax position. Otherwise, an unrecognized tax benefit is required to be presented in the financial statements as a reduction to a deferred tax asset for a net operating loss carryforward, a similar tax loss, or a tax credit carryforward. Previously, there was diversity in practice as no explicit guidance existed. These changes become effective on January 1, 2014. Management has determined that the adoption of these changes will not have a significant impact on the Consolidated Financial

Statements.

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2. CONSTRUCTION CONTRACTS IN PROGRESS

The status of contracts in progress as of December 31, 2013 and 2012 is as follows:

	2013	2012
Costs incurred on uncompleted contracts	\$34,626	\$24,667
Estimated earnings	24,096	13,047
Earned revenue	58,722	37,714
Less billings to date	(48,029	) (26,744
Total	\$10,693	\$10,970
Classified as follows:		
Costs and estimated earnings in excess of billings on uncompleted contracts	\$11,899	\$12,673
Billings in excess of costs and estimated earnings on uncompleted contracts	(1,206	) (1,703
Total	\$10,693	\$10,970

Costs and estimated earnings in excess of billings on uncompleted contracts are included in accounts receivable on the consolidated balance sheet, while billings in excess of costs and estimated earnings on uncompleted contracts are included in other accrued liabilities on the consolidated balance sheet.

As of December 31, 2013 we had three construction contracts in progress that were identified as loss contracts and a provision for losses of \$68 was recorded in other accrued liabilities on the consolidated balance sheet. As of December 31, 2012, we had two construction contracts in progress that were identified as loss contracts and a provision for losses of \$57 was recorded in other accrued liabilities on the consolidated balance sheet.

3. TAXATION

The components of income before taxes for the years ended December 31 are as follows:

	2013	2012	2011
Origin of income before taxes			
United States	\$6,025	\$5,655	\$8,244
Foreign	1,840	(577	) 1,013
Income before taxes	\$7,865	\$5,078	\$9,257

Significant components of income tax expense for the years ended December 31 are as follows:

	2013	2012	2011
Current:			
Federal	\$1,114	\$1,529	\$1,456
State	334	425	402
Foreign	836	471	482
Total current	2,284	2,425	2,340
Deferred:			
Federal	642	9	674
State	(78	) 1	95
Foreign	(84) (133) —
Total deferred	480	(123) 769
Income tax expense	\$2,764	\$2,302	\$3,109

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A reconciliation between the provision for income taxes calculated at the U.S. federal statutory income tax rate and the consolidated income tax expense in the consolidated statements of operations for the years ended December 31 is as follows:

	2013		2012		2011	
Provision at the U.S. federal statutory rate	34.0		% 34.0		% 34.0	%
State taxes, net of federal benefit	1.9		% 4.2		% 3.2	%
Foreign tax rate differential	(2.5)	)%	—		% (1.2))%
Valuation allowance	2.9		% 10.5		% 2.7	%
Research credits	(4.2)	)%	(10.0)		)% (6.5))%
Stock-based compensation	(0.4)	)%	0.3		% —	%
Other	3.4		% 6.3		% 1.4	%
Income tax expense effective rate	35.1		% 45.3		% 33.6	%

The deferred tax assets and liabilities at December 31 are as follows:

	2013		2012	
Deferred tax assets:				
Stock compensation expense	\$4,922		\$7,936	
Alternative minimum tax credit	—		71	
Warranty reserve	232		291	
Bad debts reserve	131		65	
Vacation accrual	188		157	
Commissions and other accruals	223		205	
Deferred rent liability	36		53	
Equipment	92		69	
Intangible assets	921		778	
Net operating loss carryforwards	1,833		1,868	
Total deferred tax assets	8,578		11,493	
Deferred tax liabilities:				
Equipment	(1,610)	)	(1,466))
Prepaid expenses	(285)	)	(200))
Patents	(628)	)	(489))
Goodwill	(3,792)	)	(3,193))
Other	(12)	)	(16))
Total deferred tax liabilities	(6,327)	)	(5,364))
Net deferred tax asset before valuation allowance	2,251		6,129	
Valuation allowances for deferred tax assets	(1,833)	)	(1,868))
Net deferred tax asset	\$418		\$4,261	

Net deferred tax assets and liabilities are recorded as follows within the consolidated balance sheets:

Current assets	\$477		\$573
Long-term (liability) assets	(59))	3,688
Net deferred tax asset	\$418		\$4,261

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The change in the valuation allowance for deferred tax assets for the years ended December 31 is as follows:

Year	Balance at January 1	Charged to costs and expenses	(Deductions)/Other	Balance at December 31
2011	\$1,102	—	225	\$1,327
2012	\$1,327	—	541	\$1,868
2013	\$1,868	—	(35)	\$1,833

For the years ended December 31, 2013, 2012 and 2011, we recorded tax benefits from the exercise of stock options in the amount of \$67, \$0 and \$77, respectively. This amount was recorded as an increase in additional paid-in capital on the consolidated balance sheet and as cash from financing activities on the consolidated statements of cash flows. We also reduced the deferred tax asset related to stock-based compensation by \$121 and \$57 for fully vested options that expired unexercised and by \$3,255 and \$101 for the excess of stock-based compensation over the related tax benefit recognized for restricted stock units that vested during 2013 and 2012, respectively. These reductions in deferred tax assets were recorded against additional paid-in capital and had no impact on our results from operations. As required by ASC 740, we recognize the financial statement benefit of a tax position only after determining that the relevant tax authority would more likely than not sustain the position following an audit. For tax positions meeting the more-likely-than-not threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement with the relevant tax authority.

The following table summarizes our unrecognized tax benefit activity (excluding interest and penalties) during the years ended December 31, 2013, 2012 and 2011:

Description	2013	2012	2011
Balance at beginning of period	\$39	\$505	\$664
Increases in positions taken in a prior period	—	—	—
Decreases in positions taken in a prior period	—	—	—
Increases in positions taken in a current period	65	39	117
Decreases in positions taken in a current period	—	—	—
Decreases due to settlements	(39)	(202)	—
Decreases due to lapse of statute of limitations	—	(303)	(276)
Balance at end of period	\$65	\$39	\$505

We recognize interest and penalties related to unrecognized tax benefits in income tax expense for all periods presented. The amount of interest and penalties that we recognized in income tax expense during the years ended December 31, 2013, 2012 and 2011 was \$0, \$3 and \$162, respectively. The total amount of unrecognized tax benefits as of December 31, 2013, 2012 and 2011, including interest and penalties, was \$65, \$42 and \$667, respectively, all of which if ultimately recognized will reduce our annual effective tax rate. We estimate that none of the unrecognized tax benefit will be recognized into income in 2014 due to the lapsing of statute of limitations.

We are subject to income taxes in the U.S. federal jurisdiction, and various states and foreign jurisdictions. Tax regulations within each jurisdiction are subject to the interpretation of the related tax laws and regulations and require significant judgment to apply. With few exceptions, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for the years before 2010. We underwent examination for federal tax and state of Illinois purposes for the 2010 and 2011 tax years, and any potential tax obligations in those jurisdictions have been settled, or effectively settled, and are no longer subject to tax examination.

Management periodically estimates our probable tax obligations using historical experience in tax jurisdictions and informed judgments. There are inherent uncertainties related to the interpretation of tax regulations in the jurisdictions in which we transact business. The judgments and estimates made at a point in time may change based on the outcome of tax audits, as well as changes to or further interpretations of regulations. If such changes take place, there is a risk that the tax rate may increase or decrease in any period. Tax accruals for tax liabilities related to potential changes in judgments and estimates for both federal and state tax issues are included in current liabilities on the consolidated balance sheet.

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The investment in our foreign subsidiaries is considered to be indefinite in duration and therefore we have not provided a provision for deferred U.S. income taxes on the unremitted earnings from those subsidiaries. A provision has not been established because it is not practicable to determine the amount of unrecognized deferred tax liability for such unremitted foreign earnings and because it is our present intention to reinvest the undistributed earnings indefinitely.

At December 31, 2013, we have tax loss carry-forwards of approximately \$6,665 available to offset future foreign income in Italy. We have recorded a full valuation allowance against the resulting \$1,833 deferred tax asset because we cannot anticipate when or if this entity will have taxable income sufficient to use the net operating losses in the future. There is no expiration of the net operating loss carry-forwards related to tax losses generated during the first three years of this entity's operations. The portion of the foreign loss carry-forwards related to periods subsequent to the first three years of operations have a five year carry-forward period and will begin to expire in 2014 if not used by that date.

4. COMMON SHARES

At December 31, 2013, we had 22,701,613 Common Shares issued and 22,592,956 outstanding, with an additional 6,715 shares reserved for issuance upon conversion of the nil coupon non-redeemable convertible unsecured loan notes (see Note 6) and 2,460,516 shares reserved for issuance upon the exercise or vesting of equity awards, of which 1,678,500 are stock options that are currently exercisable (see Note 7).

At December 31, 2012, we had 22,111,675 Common Shares issued and 22,102,549 outstanding, with an additional 6,715 shares reserved for issuance upon conversion of the nil coupon non-redeemable convertible unsecured loan notes and 2,666,024 shares reserved for issuance upon the exercise or vesting of equity awards, of which 1,833,500 are stock options that are currently exercisable.

5. TREASURY STOCK

Common shares held in treasury totaled 108,657 and 9,126 with a cost of \$486 and \$39 at December 31, 2013 and 2012, respectively. These shares were withheld from employees to settle personal tax withholding obligations that arose as a result of restricted stock units that vested during 2013 and 2012.

6. NIL COUPON NON-REDEEMABLE CONVERTIBLE UNSECURED LOAN NOTES

At December 31, 2013 and 2012, respectively, we had a principal amount of \$76 of nil coupon non-redeemable convertible unsecured perpetual loan notes (the "Loan Notes") outstanding. The Loan Notes are convertible at any time into Common Shares at rates of \$6.50 and \$11.43 per share, depending on the note. As of December 31, 2013, the nil coupon loan notes were convertible into 6,715 common shares. Based on our closing stock price of \$7.09 at December 31, 2013, the aggregate fair value of the common shares that the holders would receive if all the loan notes were converted would be approximately \$48, which is less than the principal amount of the loans outstanding as of that date. The Loan Notes bear no interest and have no maturity date. They are repayable in the event of our dissolution and the holders do not have the option to cash-settle the notes. Accordingly, they have been classified within stockholders' equity in the accompanying balance sheet. The notes do not hold distribution or voting rights unless and until converted into common shares.

In 2013, 2012 and 2011, there were no Loan Notes repurchased by the Company.

7. STOCK-BASED COMPENSATION

Under our stock-based employee compensation plan, referred to as the Fuel Tech, Inc. Incentive Plan (Incentive Plan), awards may be granted to participants in the form of Non-Qualified Stock Options, Incentive Stock Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units ("RSUs"), Performance Awards, Bonuses or other forms of share-based or non-share-based awards or combinations thereof. Participants in the Incentive Plan may be our directors, officers, employees, consultants or advisors (except consultants or advisors in capital-raising transactions) as the directors determine are key to the success of our business. The amount of shares that may be issued or reserved for awards to participants under a 2004 amendment to the Incentive Plan is 12.5% of outstanding shares calculated on

a diluted basis. At December 31, 2013, we had approximately 671,000 equity awards available for issuance under the Incentive Plan

Stock-based compensation is included in selling, general and administrative costs in our consolidated statements of operations.

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The components of stock-based compensation for the years ended December 31, 2013, 2012 and 2011 were as follows:

	For the Year Ended December 31,		
	2013	2012	2011
Stock options	(245	) (66	) 2,077
Restricted stock units	2,043	1,314	672
Deferred directors fees	—	58	61
Total stock-based compensation expense	1,798	1,306	2,810
Tax benefit of stock-based compensation expense	(671	) (472	) (959
After-tax effect of stock based compensation	1,127	834	1,851

As of December 31, 2013, there was \$2,795 of total unrecognized compensation cost related to all non-vested share-based compensation arrangements granted under the Incentive Plan. That cost is expected to be recognized over the remaining requisite service period of 1.7 years.

Stock Option Exchange Program

On June 1, 2011, the Company commenced an exchange program that offered to certain employees the right to exchange eligible options to purchase shares of common stock of the Company for a lesser number of replacement awards of restricted stock units. The exchange offer expired on June 29, 2011. Pursuant to the exchange offer, 814,500 eligible options were tendered by 97 employees and the Company granted 267,372 restricted stock units in exchange for those options. As a result of the exchange, which is deemed a modification of the original stock option awards under generally accepted accounting principles, additional stock-based compensation of approximately \$252 was recognized over the two year vesting period associated with the replacement awards commencing June 30, 2011. The additional stock compensation was determined by comparing the fair value of the options tendered immediately prior to the exchange to the intrinsic value of the RSUs granted immediately after the exchange. The fair value of the options was calculated using the Black-Scholes option pricing model. The Company recognized \$63, \$126 and \$63 of additional stock-based compensation during the years ended December 31, 2013, 2012 and 2011, respectively, as a result of the stock option exchange program, which is included in the stock compensation related to RSUs in the table above. Additional information regarding the stock option exchange program may be found on the Company's Tender Offer Statement on Schedule TO filed with the SEC on June 1, 2011.

Stock Options

The stock options granted to employees under the Incentive Plan have a 10-year life and they vest as follows: 50% after the second anniversary of the award date, 25% after the third anniversary, and the final 25% after the fourth anniversary of the award date. Fuel Tech calculates stock compensation expense for employee option awards based on the grant date fair value of the award, less expected annual forfeitures, and recognizes expense on a straight-line basis over the four-year service period of the award. Stock options granted to members of our Board of Directors vest immediately. Stock compensation for these awards is based on the grant date fair value of the award and is recognized in expense immediately.

Fuel Tech uses the Black-Scholes option pricing model to estimate the grant date fair value of employee stock options. The principal variable assumptions utilized in valuing options and the methodology for estimating such model inputs include: (1) risk-free interest rate – an estimate based on the yield of zero-coupon treasury securities with a maturity equal to the expected life of the option; (2) expected volatility – an estimate based on the historical volatility of Fuel Tech's Common Stock for a period equal to the expected life of the option; and (3) expected life of the option – an estimate based on historical experience including the effect of employee terminations.

Based on the results of the model, the weighted-average fair value of the stock options granted during the 12-month periods ended December 31, 2013, 2012 and 2011, respectively, were \$1.79, \$1.72 and \$4.08 per share using the following weighted average assumptions:

	2013	2012	2011	
Expected dividend yield	—	% —	% —	%

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Risk-free interest rate	1.01	% 0.67	% 1.80	%
Expected volatility	55.2	% 58.6	% 57.2	%
Expected life of option	4.7 years	4.8 years	5.0 years	

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The following table presents a summary of our stock option activity and related information for the years ended December 31:

	2013		2012		2011	
	Number	Weighted-	Number	Weighted-	Number	Weighted-
	of	Average	of	Average	of	Average
	Options	Exercise Price	Options	Exercise Price	Options	Exercise Price
Outstanding at beginning of year	1,914,000	\$ 11.38	1,902,000	\$ 11.51	2,856,125	\$ 14.68
Granted	80,000	3.85	70,000	3.55	60,000	8.16
Exchanged for RSUs	—	—	—	—	(814,500)	22.06
Exercised	(195,000)	4.16	—	—	(81,500)	4.61
Expired or forfeited	(110,500)	10.93	(58,000)	6.33	(118,125)	18.48
Outstanding at end of year	1,688,500	\$ 11.88	1,914,000	\$ 11.38	1,902,000	\$ 11.51
Exercisable at end of year	1,678,500	\$ 11.92	1,833,500	\$ 11.48	1,718,062	\$ 11.72
Weighted-average fair value of options granted during the year		\$ 1.79		\$ 1.72		\$ 4.08

The following table provides additional information regarding our stock option activity for the 12 months ended December 31, 2013:

	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life	Aggregate Intrinsic Value
Outstanding on January 1, 2013	1,914,000	\$ 11.38		
Granted	80,000	3.85		
Exercised	(195,000)	4.16		
Expired or forfeited	(110,500)	10.93		
Outstanding on December 31, 2013	1,688,500	\$ 11.88	3.8 years	\$ 1,038
Exercisable on December 31, 2013	1,678,500	\$ 11.92	3.8 years	\$ 1,027

The aggregate intrinsic value in the preceding table represents the total pretax intrinsic value, based on our closing stock price of \$7.09 as of December 31, 2013, which would have been received by the option holders had those options holders exercised their stock options as of that date.

The following table summarizes information about stock options outstanding at December 31, 2013:

Options Outstanding			Options Exercisable		
Range of Exercise Prices	Number of Options	Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number of Options	Weighted-Average Exercise Price
\$ 3.55 - \$ 5.51	328,500	5.3 years	\$ 4.44	328,500	\$ 4.44
\$ 5.52 - \$11.03	775,875	4.0 years	8.88	765,875	8.92
\$11.04 - \$22.06	267,250	2.2 years	14.57	267,250	14.57
\$22.07 - \$27.57	316,875	3.0 years	24.69	316,875	24.69
\$ 3.55 - \$27.57	1,688,500	3.8 years	\$ 11.88	1,678,500	\$ 11.92

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Non-vested stock option activity for the 12 months ended December 31, 2013 was as follows:

	Non-Vested Stock Options Outstanding	Weighted-Average Grant Date Fair Value
Outstanding on January 1, 2013	80,500	\$ 5.35
Granted	80,000	1.79
Vested	(148,000)	3.53
Forfeited	(2,500)	5.98
Outstanding on December 31, 2013	10,000	3.58

As of December 31, 2013, there was \$20 of total unrecognized compensation cost related to non-vested stock options granted under the Incentive Plan. That cost is expected to be recognized over a weighted average period of 0.7 years. Fuel Tech received proceeds from the exercise of stock options of \$811, \$0 and \$376 in the years ended December 31, 2013, 2012 and 2011, respectively. The intrinsic value of options exercised in the years ended December 31, 2013, 2012 and 2011 was \$520, \$0 and \$256, respectively. It is our policy to issue new shares upon option exercises, loan conversions, and vesting of restricted stock units. We have not used cash and do not anticipate any future use of cash to settle equity instruments granted under share-based payment arrangements.

Restricted Stock Units

Restricted stock units (RSUs) granted to employees vest over time based on continued service (typically vesting over a period between two and four years). Such time-vested RSUs are valued at the date of grant using the intrinsic value method based on the closing price of the Common Shares on the grant date. Compensation cost, adjusted for estimated forfeitures, is amortized on a straight-line basis over the requisite service period.

In addition to the time vested RSUs described above, commencing in 2011, on an annual basis we entered into performance-based RSU agreements (the Agreements) with our President/Chief Executive Officer, Treasurer/Chief Financial Officer, Executive Vice President of Marketing & Sales, and Executive Vice President of Worldwide Operations. Commencing in 2013, the Senior Vice President, General Counsel, and Secretary also entered into an agreement. The Agreements provide each participating executive the opportunity to earn three types of awards with each award type specifying a targeted number of RSUs that may be granted to each executive based on either the individual performance of the executive or our relative performance compared to a peer group, as determined by the award type. The Compensation Committee of our Board of Directors (the Committee) determines the extent to which, if any, RSUs will be granted based on the achievement of the applicable performance criteria specified in the Agreement. This determination will be made following the completion of the applicable performance period (each a Determination Date). Such performance based awards include the following:

The first type of award is based on individual performance during the respective calendar year as determined by the Committee based on performance criteria specified in the Agreement. These awards will vest over a three-year period beginning on the Determination Date. We estimated the fair value of these performance-based RSU awards on the date of the Agreement using the trading price of the Company's stock and our estimate of the probability that the specified performance criteria will be met. The fair value measurement and probability estimate will be re-measured each reporting date until the Determination Date, at which time the final award amount will be known. For these job performance-based awards, we amortize compensation costs over the requisite service period, adjusted for estimated forfeitures, for each separately vesting tranche of the award.

The second type of RSU award contains a targeted number of RSUs to be granted based on our revenue growth relative to a specified peer group during a period of two calendar years. These awards vest 67% on the second anniversary of the Agreement date and 33% on the third anniversary of the Agreement date. We estimated the fair value of these performance-based RSU awards on the Agreement date using the trading price of the Company's stock

and our estimate of the probability that the specified performance criteria will be met. For these revenue growth performance-based awards, we amortize compensation costs over the requisite service period, adjusted for estimated forfeitures, for each separately vesting tranche of the award.

The third type of RSU award contains a targeted number of RSUs to be granted based on the total shareholder return (TSR) of our Common Shares relative to a specified peer group during a period of two calendar years. These awards vest 67% on the second anniversary of the Agreement date and 33% on the third anniversary of the Agreement date. We estimated the fair value of these market-based RSU awards on the Agreement date using a Monte Carlo valuation

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methodology and amortize the fair value over the requisite service period for each separately vesting tranche of the award. The principal variable assumptions utilized in valuing these RSUs under this valuation methodology include the risk-free interest rate, stock volatility and correlations between our stock price and the stock prices of the peer group of companies.

We recorded expense of approximately \$2,043, \$1,314 and \$672 associated with our restricted stock unit awards in 2013, 2012 and 2011, respectively. At December 31, 2013 there was \$2,775 of unrecognized compensation costs related to restricted stock unit awards to be recognized over a weighted average period of 1.7 years. During the years ended December 31, 2013 and 2012, there were 394,938 and 72,250 restricted stock units that vested with a fair value of \$1,728 and \$307, respectively.

A summary of restricted stock unit activity for the years ended December 31, 2013, 2012 and 2011 is as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested restricted stock units at January 1, 2011	149,000	\$ 8.63
Granted	80,000	9.14
Converted from stock options	267,372	6.53
Forfeited	(9,207)	) 6.76
Vested	—	—
Unvested restricted units at December 31, 2011	487,165	7.59
Granted	349,000	4.82
Forfeited	(11,891)	) 7.15
Vested	(72,250)	) 8.63
Unvested restricted stock units at December 31, 2012	752,024	6.21
Granted	485,000	4.62
Forfeited	(70,070)	) 5.58
Vested	(394,938)	) 2.94
Unvested restricted stock units at December 31, 2013	772,016	5.35
Deferred Directors Fees		

In addition to the Incentive Plan, Fuel Tech has a Deferred Compensation Plan for Directors (Deferred Plan). Under the terms of the Deferred Plan, Directors can elect to defer Directors' fees for shares of Fuel Tech Common Stock that are issuable at a future date as defined in the agreement. In accordance with ASC 718, Fuel Tech accounts for these awards as equity awards as opposed to liability awards. In 2013, 2012 and 2011, we recorded \$0, \$58 and \$61 respectively, of stock-based compensation expense under the Deferred Plan.

8. COMMITMENTS AND CONTINGENCIES

Operating Leases

We lease office space, automobiles and certain equipment under agreements expiring on various dates through 2019. Future minimum lease payments under non-cancellable operating leases that have initial or remaining lease terms in excess of one year as of December 31, 2013 are as follows:

Year of Payment	Amount
2014	\$607
2015	434
2016	426
2017	428
2018	430
Thereafter	458

Total

\$2,783

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For the years ended December 31, 2013, 2012 and 2011, rent expense approximated \$1,010, \$964, and \$879, respectively.

We are party to a sublease agreement with American Bailey Corporation (ABC) that obligates ABC to reimburse us for its share of lease and lease-related expenses under our February 1, 2010 lease of executive offices in Stamford, Connecticut. Please refer to Note 10 to the consolidated financial statements for a discussion of our relationship with ABC. The future minimum lease income under this non-cancellable sublease as of December 31, 2013 is as follows:

Year of Payment	Amount
2014	\$145
2015	155
2016	155
2017	155
2018	155
Thereafter	155
Total	\$920

The terms of the Company's four primary lease arrangements are as follows:

The Stamford, Connecticut building lease term, for approximately 6,440 square feet, runs from February 1, 2010 to December 31, 2019. The facility houses certain administrative functions such as Investor Relations and certain APC sales functions.

The Beijing, China building lease term, for approximately 5,800 square feet, runs from September 1, 2013 to August 31, 2014. This facility serves as the operating headquarters for our Beijing Fuel Tech operation. We have the option to extend the lease term at a market rate to be agreed upon between Fuel Tech and the lessor.

- The Durham, North Carolina building lease term, for approximately 16,000 square feet, runs from November 1, 2005 to April 30, 2014. We have no option to extend the lease.

- The Gallarate, Italy building lease term, for approximately 1,300 square feet, runs from May 1, 2013 to April 30, 2019. This facility serves as the operating headquarters for our Italy operations.

Performance Guarantees

The majority of Fuel Tech's long-term equipment construction contracts contain language guaranteeing that the performance of the system that is being sold to the customer will meet specific criteria. On occasion, performance surety bonds and bank performance guarantees/letters of credit are issued to the customer in support of the construction contracts as follows:

- in support of the warranty period defined in the contract; or

- in support of the system performance criteria that are defined in the contract.

As of December 31, 2013, we had outstanding bank performance guarantees and letters of credit in the amount of \$4,124 in support of equipment construction contracts that have not completed their final acceptance test or that are still operating under a warranty period. The performance guarantees expire in dates ranging from January 2014 through September 2016. The expiration dates may be extended if the project completion dates are extended. Our management believes it is probable that these projects will be successfully completed and that there will not be a material adverse impact on our operations from these bank performance guarantees and letters of credit. As a result, no liability has been recorded for these performance guarantees.

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Product Warranties

We issue a standard product warranty with the sale of our products to customers. Our recognition of warranty liability is based primarily on analyses of warranty claims experience in the preceding years as the nature of our historical product sales for which we offer a warranty are substantially unchanged. This approach provides an aggregate warranty accrual that is historically aligned with actual warranty claims experienced. Changes in the warranty liability in 2013, 2012 and 2011 are summarized below:

	2013	2012	2011
Aggregate product warranty liability at beginning of year	\$776	\$313	\$215
Net aggregate (income) expense related to product warranties	(68	) 1,208	650
Aggregate reductions for payments	(112	) (745	) (552
Aggregate product warranty liability at end of year	\$596	\$776	\$313

Contingent Consideration from Business Acquisition

In 2009, we recorded a contingent consideration accrual representing the fair value of the potential future consideration to be paid in connection with our acquisition of substantially all of the assets of Advanced Combustion Technology, Inc. (ACT). The contingent consideration earnout arrangement required us to pay ACT a pro rata amount of up to \$4,000 annually for the achievement of a minimum annual gross margin dollar level (the Hurdle) of \$10,000, \$11,000 and \$12,000 in fiscal 2009, 2010 and 2011, respectively. In addition, the agreement required us to pay ACT thirty-five percent of all qualifying gross margin dollars above the annual Hurdle rate for each of the three years. The potential undiscounted amount of all future payments that we could have been required to make was between \$0 and \$4,000 in any one year, and \$0 and \$12,000 in total, not including the amount related to the thirty-five percent sharing of qualifying gross margin dollars above the pre-determined Hurdle. The fair value of the contingent consideration at inception was \$2,307, which was recorded as a liability when the business combination was initially recorded.

Each year while this earn-out was in effect, we evaluated the probability that payment of the contingent consideration accrual was probable based on a range of outcomes and assumptions used to develop the fair value estimate. Based upon this analysis, management concluded during the year ended December 31, 2011, that the payout was not probable of being made. Thus, we recorded a gain of \$758 from the revaluation of the contingent liability in 2011. There is no contingent liability accrual remaining as of December 31, 2013.

9. DEBT FINANCING

On June 30, 2013, we amended our existing revolving credit facility (the Facility) with JPMorgan Chase Bank, N.A. (JPM Chase) to extend the maturity date through June 30, 2015. The total borrowing base of the facility is \$15,000 and contains a provision to increase the facility up to a total principal amount of \$25,000 upon approval from JPM Chase. The Facility is unsecured, bears interest at a rate of LIBOR plus a spread range of 250 basis points to 375 basis points, as determined by a formula related to our leverage ratio, and is guaranteed by our Italian subsidiary, Fuel Tech S.r.l. We are allowed to use this Facility for cash advances and standby letters of credit. As of December 31, 2013 and 2012, there were no outstanding borrowings on the amended credit facilities.

The Facility contains several debt covenants with which we must comply on a quarterly or annual basis, including a maximum Funded Debt to EBITDA Ratio (or "Leverage Ratio", as defined in the Facility) of 2.0:1.0 based on the four trailing quarterly periods. Maximum funded debt is defined as all borrowed funds, outstanding standby letters of credit and bank guarantees. EBITDA includes after tax earnings with add backs for interest expense, income taxes, depreciation and amortization, and stock-based compensation expenses. In addition, the Facility covenants include an annual capital expenditure limit of \$10,000 and a minimum tangible net worth of \$55,000, adjusted upward for 50% of net income generated and 100% of all capital issuances. At December 31, 2013 we were in compliance with all financial covenants specified by the Facility.

At December 31, 2013 and 2012, we had outstanding standby letters of credit and bank guarantees totaling approximately \$3,478 and \$7,432, respectively, on our domestic credit facility in connection with contracts in process. We are committed to reimbursing the issuing bank for any payments made by the bank under these instruments. At December 31, 2013 and 2012, there were no cash borrowings under the domestic revolving credit facility and approximately \$11,522 and \$7,568, respectively, was available for future borrowings. We pay a commitment fee of 0.25% per year on the unused portion of the revolving credit facility.

On June 28, 2013, our wholly-owned subsidiary, Beijing Fuel Tech Environmental Technologies Company, Ltd. (Beijing Fuel Tech) entered into a new revolving credit facility (the China Facility) agreement with JPM Chase for RMB 35 million (approximately \$5,725), which expires on June 27, 2014. This new credit facility replaced the previous RMB 35 million facility that expired on

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June 28, 2013. The facility is unsecured, bears interest at a rate of 125% of the People's Bank of China (PBOC) Base Rate, and we have guaranteed BJFT's obligations under this facility. Beijing Fuel Tech can use this facility for cash advances and bank guarantees. As of December 31, 2013 and 2012, Beijing Fuel Tech had borrowings outstanding in the amount of \$1,636 and \$0, respectively. These borrowings were subject to interest rates of approximately 7.0% at December 31, 2013 and 2012.

At December 31, 2013 and 2012, we had outstanding standby letters of credit and bank guarantees totaling approximately \$646 and \$1,112, respectively, on its Beijing Fuel Tech revolving credit facility in connection with contracts in process. At December 31, 2013 and 2012, approximately \$3,443 and \$4,429 was available for future borrowings.

In the event of default on either the domestic facility or the China facility, the cross default feature in each allows the lending bank to accelerate the payments of any amounts outstanding and may, under certain circumstances, allow the bank to cancel the facility. If we were unable to obtain a waiver for a breach of covenant and the bank accelerated the payment of any outstanding amounts, such acceleration may cause our cash position to deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require us to obtain alternate financing to satisfy the accelerated payment.

10. RELATED PARTY TRANSACTIONS

Persons now or formerly associated with American Bailey Corporation (ABC), including our Chief Executive Officer, currently own approximately 29% of our outstanding Common Shares. On January 1, 2004, we entered into an agreement whereby ABC reimburses us for services that certain employees provide to ABC. In addition, ABC is a sub-lessee under our February 1, 2010 lease of its offices in Stamford, Connecticut, which runs through December 31, 2019. ABC reimburses us for its share of lease and lease-related expenses under the sublease agreement. The Stamford facility houses certain administrative functions including Investor Relations. The amounts earned from ABC related to both compensation and the subleases for the years ended December 31, 2013, 2012 and 2011, were \$147, \$149 and \$153, respectively. The amount due from ABC related to both compensation and the sublease agreement was \$13, \$16 and \$27 at December 31, 2013, 2012 and 2011 respectively.

11. DEFINED CONTRIBUTION PLAN

We have a retirement savings plan available for all our U.S. employees who have met minimum length-of-service requirements. Our contributions are determined based upon amounts contributed by the employees with additional contributions made at the discretion of the Board of Directors. Costs related to this plan were \$728, \$455 and \$757 in 2013, 2012 and 2011, respectively.

12. BUSINESS SEGMENT, GEOGRAPHIC AND QUARTERLY FINANCIAL DATA

Business Segment Financial Data

We segregate our financial results into two reportable segments representing two broad technology segments as follows:

The Air Pollution Control technology segment includes technologies to reduce NO_x emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low and Ultra Low NO_x Burners (LNB and ULNB), Over-Fire Air (OFA) systems, NO_xOUT[®] and HERT[™] Selective Non-Catalytic Reduction (SNCR) systems, and Advanced Selective Catalytic Reduction (ASCR)[™] systems. Our ASCR systems include ULNB, OFA, and SNCR components, along with a downsized SCR catalyst, Ammonia Injection Grid (AIG), and Graduated Straightening Grid GSG[™] systems to provide high NO_x reductions at significantly lower capital and operating costs than conventional SCR systems. The NO_xOUT CASCADE[®] and NO_xOUT-SCR[®] processes are more basic, using just SNCR and SCR catalyst components. ULTRA[™] technology creates ammonia at a plant site using safe urea for use with any SCR application. Flue Gas Conditioning systems are chemical injection systems offered in markets outside the U.S. and Canada to enhance electrostatic precipitator and fabric filter performance in controlling particulate emissions.

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The FUEL CHEM[®] technology segment, which uses chemical processes in combination with advanced CFD and CKM boiler modeling, for the control of slagging, fouling, corrosion, opacity and other sulfur trioxide-related issues in furnaces and boilers through the addition of chemicals into the furnace using TIFI[®] Targeted In-Furnace Injection[™] technology.

The “Other” classification includes those profit and loss items not allocated to either reportable segment. There are no intersegment sales that require elimination.

We evaluate performance and allocate resources based on gross margin by reportable segment. The accounting policies of the reportable segments are the same as those described in the summary of significant accounting policies. We do not review assets by reportable segment, but rather, in aggregate for the company as a whole.

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Information about reporting segment net sales and gross margin are provided below:

For the year ended December 31, 2013	Air Pollution Control Segment	FUEL CHEM Segment	Other	Total
Revenues from external customers	\$72,552	\$36,786	\$—	\$109,338
Cost of sales	(45,138)	(17,383)	—	(62,521)
Gross margin	27,414	19,403	—	46,817
Selling, general and administrative	—	—	(36,375)	(36,375)
Research and development	—	—	(2,442)	(2,442)
Operating income	\$27,414	\$19,403	\$(38,817)	\$8,000

For the year ended December 31, 2012	Air Pollution Control Segment	FUEL CHEM Segment	Other	Total
Revenues from external customers	\$62,441	\$35,203	\$—	\$97,644
Cost of sales	(40,146)	(16,753)	—	(56,899)
Gross margin	22,295	18,450	—	40,745
Selling, general and administrative	—	—	(32,682)	(32,682)
Research and development	—	—	(2,863)	(2,863)
Operating income	\$22,295	\$18,450	\$(35,545)	\$5,200

For the year ended December 31, 2011	Air Pollution Control Segment	FUEL CHEM Segment	Other	Total
Revenues from external customers	\$50,930	\$42,738	\$—	\$93,668
Cost of sales	(28,467)	(21,390)	—	(49,857)
Gross margin	22,463	21,348	—	43,811
Selling, general and administrative	—	—	(33,446)	(33,446)
Gain from revaluation of ACT liability	—	—	758	758
Research and development	—	—	(1,474)	(1,474)
Operating income	\$22,463	\$21,348	\$(34,162)	\$9,649

Geographic Segment Financial Data

Information concerning our operations by geographic area is provided below. Revenues are attributed to countries based on the location of the customer. Assets are those directly associated with operations of the geographic area.

For the years ended December 31,	2013	2012	2011
Revenues:			
United States	\$63,275	\$70,425	\$76,077
Foreign	46,063	27,219	17,591
	\$109,338	\$97,644	\$93,668

As of December 31,	2013	2012
Assets:		
United States	\$83,464	\$86,466
Foreign	26,594	19,431
	\$110,058	\$105,897

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Unaudited Quarterly Financial Data

Set forth below are the unaudited quarterly financial data for the fiscal years ended December 31, 2013 and 2012.

For the quarters ended	March 31	June 30	September 30	December 31
2013				
Revenues	\$22,484	\$29,092	\$33,555	\$24,207
Cost of sales	13,052	17,227	18,455	13,787
Net (loss) income	(21	) 1,236	3,480	406
Net income per common share:				
Basic	\$—	\$0.06	\$0.16	\$0.02
Diluted	\$—	\$0.05	\$0.15	\$0.02
2012				
Revenues	\$25,212	\$20,911	\$24,907	\$26,614
Cost of sales	13,220	11,880	14,671	17,128
Net income (loss)	1,543	68	1,194	(29
Net income per common share:)
Basic	\$0.07	\$—	\$0.05	\$—
Diluted	\$0.06	\$—	\$0.05	\$—

13. FAIR VALUE

We apply authoritative accounting guidance for fair value measurements of financial and nonfinancial assets and liabilities. This guidance defines fair value, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis and clarifies that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the standard establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1 – Observable inputs to the valuation methodology such as quoted prices in active markets for identical assets or liabilities

Level 2 – Inputs to the valuation methodology including quoted prices for similar assets or liabilities in active markets, quoted prices for identical assets or liabilities in inactive markets, inputs other than quoted prices that are observable for the asset or liability, and inputs that are derived principally from or corroborated by observable market data by correlation or other means

Level 3 – Significant unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own estimates and assumptions or those expected to be used by market participants. Generally, these fair value measures are model-based valuation techniques such as discounted cash flows, option pricing models, and other commonly used valuation techniques

The fair value of our marketable securities was \$30 and \$44 at December 31, 2013 and 2012, respectively, and was determined using quoted prices in active markets for identical assets (level 1 fair value measurements). Transfers between levels of the fair value hierarchy are recognized based on the actual date of the event or change in circumstances that caused the transfer. We had no assets or liabilities that were valued using level 2 or level 3 inputs and therefore there were no transfers between levels of the fair value hierarchy during the periods ended December 31, 2013 and 2012.

The carrying amount of our short-term debt and revolving line of credit approximates fair value due to its short-term nature and because the amounts outstanding accrue interest at variable market-based rates.

14. SHARE REPURCHASE PROGRAM

In August 2011, our Board of Directors authorized the repurchase of up to \$6 million of outstanding common shares through December 31, 2012. This initial program was completed in the quarter ended March 31, 2012. In May 2012, the Board of Directors authorized a second repurchase program, authorizing the repurchase up to an additional \$6 million of outstanding common shares through June 30, 2013 and this repurchase program was completed in September 2012. The share repurchase programs were funded through the our existing cash on hand. Purchases made pursuant to the programs were made in the open market. The timing,

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manner, price and amount of any repurchases were determined using our discretion and were subject to economic and market conditions, stock price, applicable legal requirements, and other factors.

During the course of the share repurchase programs, we repurchased an aggregate of 2,306,590 common shares for a total cost of approximately \$12,000 including commissions of approximately \$76. The Common Shares acquired shares have been retired and are no longer shown as issued or outstanding shares.

The following table summarizes our share repurchase programs since their inception:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Cost	Maximum Dollar Value of Shares That May Yet Be Purchased Under the Program
Phase One Program				
August 25, 2011 through September 30, 2011	571,554	\$5.89	\$3,367	\$ 2,633
October 1, 2011 through December 31, 2011	130,160	5.71	744	1,889
January 1, 2012 through March 31, 2012	334,636	5.64	1,889	—
Phase Two Program				
April 1, 2012 through June 30, 2012	1,124,797	4.70	5,290	710
July 1, 2012 through September 30, 2012	145,443	4.88	710	—
Total	2,306,590	\$5.20	\$12,000	\$ —

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ITEM 9 - CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None

ITEM 9A - CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, our management evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act), as of the end of the period covered by this Annual Report on Form 10-K (the "Evaluation Date"). Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of the Evaluation Date, our disclosure controls and procedures are effective to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Change in Internal Controls

There has been no change in our internal control over financial reporting that occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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) under the Exchange Act. As required by Rule 13a-15(c) under the Exchange Act, our management has carried out an evaluation, with the participation of the Chief Executive Officer and Chief Financial Officer, of the effectiveness of its internal control over financial reporting as of the end of the last fiscal year. The framework on which such evaluation was based is contained in the report entitled "Internal Control—Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO Report") in 1992.

Our system of internal control over financial reporting is 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. 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.

Based on its assessment, management has concluded that we maintained effective internal control over financial reporting as of December 31, 2013, based on criteria in "Internal Control - Integrated Framework" issued by the COSO in 1992.

McGladrey LLP, our independent registered public accounting firm, who audited and reported on the consolidated financial statements included in this Annual Report on Form 10-K, has issued an attestation report on the effectiveness of our internal control over financial reporting. This attestation report is included in Item 8 to this Annual Report on Form 10-K.

ITEM 9B - OTHER INFORMATION

None

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PART III

ITEM 10 – DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information required by this Item will be set forth under the captions “Election of Directors,” “Directors and Executive Officers of Fuel Tech,” “Compensation Committee,” “Audit Committee,” and “Financial Experts” in our definitive Proxy Statement related to the 2014 Annual Meeting of Stockholders (the “Proxy Statement”) and is incorporated by reference. We have adopted a Code of Ethics and Business Conduct (the “Code”) that applies to all employees, officers and directors, including the Chief Executive Officer, Chief Financial Officer and Controller. A copy of the Code is available free of charge to any person on written or telephone request to our Legal Department at the address or telephone number described in Item 1 under the heading “Available Information.” The Code is also available on our website at www.ftek.com.

Other information concerning our directors and executive officers and relating to corporate governance will be set forth under the captions “Election of Directors,” “Audit Committee,” “Compensation and Nominating Committee,” “Financial Experts,” “Corporate Governance” and “General” in our Proxy Statement related to the 2014 Annual Meeting of Stockholders and is incorporated by reference.

ITEM 11 - EXECUTIVE COMPENSATION

Information required by this Item will be set forth under the caption “Executive Compensation” in our definitive Proxy Statement and is incorporated by reference.

ITEM 12 - SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The following table provides information for all equity compensation plans as of the fiscal year ended December 31, 2013, under which our securities were authorized for issuance:

Plan Category	Number of Securities to be issued upon exercise of outstanding options and vesting of restricted stock units	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under equity compensation plan excluding securities listed in column (a)
	(a)	(b)	(c)
Equity compensation plans approved by security holders (1)	2,460,516	\$ 11.88	671,168

(1) Includes Common Shares of Fuel Tech, Inc. authorized for awards under Fuel Tech’s Incentive Plan, as amended on June 3, 2004.

In addition to the plans listed above, we have a Deferred Compensation Plan for directors under which 100,000 Common Shares have been reserved for issuance as deferred compensation with respect to directors fees. At December 31, 2013, 39,366 Common Shares have been earned as future stock units to be granted on a one-to-one basis in Common Shares at the election of the participating Director.

Further information required by this Item will be set forth under the caption “Principal Stockholders and Stock Ownership of Management” in the definitive Proxy Statement and is incorporated by reference.

ITEM 13 - CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information required by this Item will be set forth under the captions “Compensation Committee Interlocks and Insider Participation” and “Certain Relationships and Related Transactions” in our definitive Proxy Statement and is incorporated by reference.

ITEM 14 - PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information required by this Item will be set forth under the caption “Approval of Appointment of Auditors” in our definitive Proxy Statement and is incorporated by reference.

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PART IV

ITEM 15 - EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) Financial Statements

The financial statements identified below and required by Part II, Item 8 of this Form 10-K are set forth above.

Management's Report on Internal Control Over Financial Reporting

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2013 and 2012

Consolidated Statements of Operations for Years Ended December 31, 2013, 2012 and 2011

Consolidated Statements of Comprehensive Income for Years Ended December 31, 2013, 2012 and 2011

Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2013, 2012, and 2011

Consolidated Statements of Cash Flows for the Years Ended December 31, 2013, 2012 and 2011

Notes to Consolidated Financial Statements

(2) Financial Statement Schedules

All other schedules have been omitted because of the absence of the conditions under which they are required or because the required information, where material, is shown in the financial statements or the notes thereto.

(3) Exhibits

Exhibit	Description	Filed Herewith	Incorporated by Reference			
			Form	Period ending	Exhibit	Filing date
3.1	Certificate of Incorporation of Fuel Tech, Inc.		8-K		3.2	10/5/2006
3.2	Certificate of Conversion of Fuel Tech, Inc.		8-K		3.1	10/5/2006
3.3	By-Laws of Fuel Tech, Inc.		8-K		3.3	10/5/2006
4.1	Instrument Constituting US \$19,200,000 Nil Coupon Non-Redeemable Convertible Unsecured Loan Notes of Fuel-Tech N.V., dated December 21, 1989		10-Q	9/30/2009	4.1	11/4/2009
4.2	First Supplemental Instrument Constituting US \$3,000 Nil Coupon Non-Redeemable Convertible Unsecured Loan Notes of Fuel-Tech N.V., dated July 10, 1990		10-Q	9/30/2009	4.2	11/4/2009
4.3	Instrument Constituting US \$6,000 Nil Coupon Non-Redeemable Convertible Unsecured Loan Notes of Fuel-Tech N.V., dated March 12, 1993		10-Q	9/30/2009	4.3	11/4/2009
4.4*	Fuel Tech, Inc. Incentive Plan as amended through June 3, 2004		S-8		4.1	10/2/2006
4.5*	Fuel Tech, Inc. Form of Non-Executive Director Stock Option Agreement		10-K	12/31/2006	4.6	3/6/2007
4.6*	Fuel Tech, Inc. Form of Non-Qualified Stock Option Agreement		10-K	12/31/2006	4.7	3/6/2007
4.7*	Fuel Tech, Inc. Form of Incentive Stock Option Agreement		10-K	12/31/2006	4.8	3/6/2007
4.8*	Fuel Tech, Inc. Form of Restricted Stock Unit Agreement		10-K	12/31/2010	4.8	3/9/2011
4.9*	Fuel Tech, Inc. Form of Revised Restricted Stock Unit Agreement		10-K	12/31/2011	4.9	3/5/2012
4.10*	Fuel Tech, Inc. Form of 2011 Executive Performance RSU Award Agreement		8-K		10.1	3/28/2011
4.11*			8-K		4.2	5/7/2013

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	Fuel Tech, Inc. Form of 2012 Executive Performance RSU Award Agreement			
4.12*	Fuel Tech, Inc. Form of 2013 Executive Performance RSU Award Agreement	8-K	4.3	5/7/2013
10.1**	License Agreement dated November 18, 1998 between The Gas Technology Institute and Fuel Tech, Inc. relating to the FLGR Process.	10-K	12/31/1999 3.3	3/30/2000

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10.2**	Amendment No. 1, dated February 28, 2000, to License Agreement dated November 18, 1998 between The Gas Technology Institute and Fuel Tech, Inc. relating to the FLGR Process.	10-K	12/31/1999	3.3	3/30/2000	
10.3	Form of Indemnity Agreement between Fuel Tech, Inc. and its Directors and Officers.	8-K		99.1	2/7/2007	
10.4**	Restated Supply Agreement, dated March 4, 2009, between Fuel Tech, Inc. and Martin Marietta Magnesia Specialties, LLC.	10-K	12/31/2008	10.7	3/5/2009	
10.5	Amendment No. 1 to Restated Supply Agreement, dated October 31, 2013, between Fuel Tech, Inc. and Martin Marietta Magnesia Specialties, Inc.	10-Q	9/30/2013	10.1	11/7/2013	
10.6	Asset Purchase Agreement, dated December 5, 2008, among Fuel Tech, Inc., Advanced Combustion Technology, Inc., Peter D. Marx, Robert W. Pickering and Charles E. Trippel.	10-K	12/31/2008	10.8	3/5/2009	
10.7	Credit Agreement, dated as of June 30, 2009, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	9/30/2009	10.5	11/4/2009	
10.8	First Amendment to Credit Agreement, dated as of October 5, 2009, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	9/30/2009	10.6	11/4/2009	
10.90	Second Amendment to Credit Agreement, dated as of November 4, 2009, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	9/30/2009	10.7	11/4/2009	
10.10	Third Amendment to Credit Agreement, dated as of June 30, 2011, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	6/30/2011	4.1	8/8/2011	
10.11	Fourth Amendment to Credit Agreement, dated as of June 30, 2013, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	6/30/2013	4.1	8/7/2013	
10.12	Sublease Agreement, dated December 9, 2009, between Fuel Tech, Inc. and American Bailey Corporation	10-K	12/31/2009	10.14	3/4/2010	
10.13*	2011 Executive Officer Incentive Plan of Fuel Tech, Inc.	10-K	12/31/2010	10.15	3/9/2011	
10.14*	2012 Executive Officer Incentive Plan of Fuel Tech, Inc.	10-Q	12/31/2011	4.2	5/8/2012	
10.15*	2013 Executive Officer Incentive Plan of Fuel Tech, Inc.	8-K		99.1	5/30/2013	
10.16*	2014 Executive Officer Incentive Plan of Fuel Tech, Inc.	X				
10.17*	Employment Agreement, dated August 2, 2010, between David S. Collins and Fuel Tech, Inc.	10-Q	6/30/2010	10.1	8/9/2010	
10.18*	Employment Agreement, dated April 1, 2010, between Douglas G. Bailey and Fuel Tech, Inc.	10-K	12/31/2010	10.19	3/9/2011	
10.19*	Employment Agreement, dated August 31, 2009, between Robert E. Puissant and Fuel Tech, Inc.	10-K	12/31/2010	10.2	3/9/2011	
10.20*	Employment Agreement, dated September 20, 2010 between Vincent J. Arnone and Fuel Tech, Inc.	10-K	12/31/2011	10.21	3/5/2012	
10.21	Employment Agreement, dated July 13, 2003, between Albert G. Grigonis and Fuel Tech, Inc.	X				
21	Listing of Subsidiaries	X				
23.1	Consent of Independent Registered Public Accounting Firm.	X				

31.1	Certifications of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X
31.2	Certifications of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X
32	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X

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101.1 INS XBRL Instance Document.

101.2 SCH XBRL Taxonomy Extension Schema Document.

101.3 CAL XBRL Taxonomy Extension Calculation Linkbase Document.

101.4 DEF XBRL Taxonomy Extension Definition Linkbase Document.

101.5 LAB XBRL Taxonomy Extension Label Linkbase Document.

101.6 PRE XBRL Taxonomy Extension Presentation Linkbase Document.

* Indicates a management contract or compensatory plan or arrangement.

** Portions of this document have been omitted pursuant to a request for confidential treatment and the omitted information has been filed separately with the Securities and Exchange Commission.

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SIGNATURES AND CERTIFICATIONS

Pursuant to the requirements 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.

FUEL TECH, INC.

Date: March 10, 2014

By: /s/ Douglas G. Bailey
Douglas G. Bailey
Chief Executive Officer
(Principal Executive Officer)

Date: March 10, 2014

By: /s/ David S. Collins
David S. Collins
Chief Financial Officer
(Principal Financial Officer)

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Pursuant to the requirements of the Securities and Exchange Act of 1934, this report has been duly signed below by the following persons on behalf of Fuel Tech, Inc. and in the capacities and on the date indicated.

Date: March 10, 2014

Signature	Title
/s/ Douglas G. Bailey Douglas G. Bailey	Chairman and Director, President and Chief Executive Officer (Principal Executive Officer)
/s/ Miguel Espinosa Miguel Espinosa	Director
/s/ W. Grant Gregory W. Grant Gregory	Director
/s/ Thomas L. Jones Thomas L. Jones	Director
/s/ George F. MacCormack George F. MacCormack	Director
/s/ Thomas S. Shaw, Jr. Thomas S. Shaw, Jr.	Director
/s/ Robert T. Smith Robert T. Smith	Director
/s/ Delbert L. Williamson Delbert L. Williamson	Director
/s/ Dennis L. Zeitler Dennis L. Zeitler	Director
/s/ David S. Collins David S. Collins	Sr. Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)