

FUEL TECH, INC.  
Form 10-K  
March 05, 2012  
[Table of Contents](#)

# 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 [NO FEE REQUIRED]

For the fiscal year ended: December 31, 2011

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED]

For the transition period from to

Commission File No. 001-33059

## Fuel Tech, Inc.

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation of organization)

Fuel Tech, Inc.

20-5657551  
(I.R.S. Employer  
Identification Number)

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27601 Bella Vista Parkway

Warrenville, IL 60555-1617

630-845-4500

www.ftek.com

(Address and telephone number of principal executive offices)

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

Common Stock \$0.01 par value per share  
(Title of Class)

The NASDAQ Stock Market, Inc.  
(Name of Exchange on Which Registered)

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted to Rule 405 of Regulation S-T (§229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, non-accelerated filer or a smaller reporting company (as defined in rule 12b-2 under the Securities Exchange Act of 1934).

Large Accelerated Filer ☐ Accelerated Filer ☒

Non-accelerated Filer ☐ (Do not check if a smaller reporting company) Smaller reporting company ☐

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

The aggregate market value of the voting stock held by non-affiliates of the registrant at June 30, 2011 was approximately \$117,865,000 based on the closing stock price as reported on the NASDAQ Stock Exchange.

Indicate number of shares outstanding of each of the registered classes of Common Stock at March 5, 2012: 23,644,301 shares of Common Stock, \$0.01 par value.

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**Documents incorporated by reference:**

Certain portions of the registrant's definitive Proxy Statement for the annual meeting of stockholders to be held in 2012 are incorporated by reference in Parts II, III, and IV hereof.

**Table of Contents**

**TABLE OF CONTENTS**

	<b>Page</b>
<b>PART I</b>	
Item 1. <u>Business</u>	1
Item 1A. <u>Risk Factors</u>	7
Item 1B. <u>Unresolved Staff Comments</u>	8
Item 2. <u>Properties</u>	9
Item 3. <u>Legal Proceedings</u>	9
Item 4. <u>Mine Safety Disclosures</u>	9
<b>PART II</b>	
Item 5. <u>Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchase of Equity Securities</u>	10
Item 6. <u>Selected Financial Data</u>	12
Item 7. <u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	13
Item 7A. <u>Quantitative and Qualitative Disclosures about Market Risk</u>	20
Item 8. <u>Financial Statements and Supplementary Data</u>	21
Item 9. <u>Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	46
Item 9A. <u>Controls and Procedures</u>	46
Item 9B. <u>Other Information</u>	46
<b>PART III</b>	
Item 10. <u>Directors, Executive Officers and Corporate Governance</u>	47
Item 11. <u>Executive Compensation</u>	47
Item 12. <u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	47
Item 13. <u>Certain Relationships and Related Transactions, and Director Independence</u>	47
Item 14. <u>Principal Accountant Fees and Services</u>	47
<b>PART IV</b>	
Item 15. <u>Exhibits and Financial Statement Schedules</u>	48
<u>Signatures and Certifications</u>	51

**Table of Contents**

**TABLE OF DEFINED TERMS**

<b>Term</b>	<b>Definition</b>
ABC	American Bailey Corporation
AIG	Ammonia Injection Grid
ASCR	A trademark used to describe Fuel Tech's Advanced SCR process
CAAA	Clean Air Act Amendments of 1990
CAIR	Clean Air Interstate Rule
CAVR	Clean Air Visibility Rule
CFD	Computational Fluid Dynamics
Common Shares	Shares of the Common Stock of Fuel Tech
Common Stock	Common Stock of Fuel Tech
EPA	The U.S. Environmental Protection Agency
FGC	Flue Gas Conditioning
FUEL CHEM®	A trademark used to describe Fuel Tech's 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 a Fuel Tech SNCR process
Loan Notes	Nil-coupon, non-redeemable convertible unsecured loan notes of Fuel Tech
NOx	Oxides of nitrogen
NOxOUT®	A trademark used to describe Fuel Tech's SNCR process for the reduction of NOx
NOxOUT-SCR®	A trademark used to describe Fuel Tech's direct injection of urea as a catalyst reagent
NOxOUT CASCADE®	A trademark used to describe Fuel Tech's combination of SNCR and SCR
SCR	Selective Catalytic Reduction
SIP Call	State Implementation Plan Regulation
SNCR	Selective Non-Catalytic Reduction
TCI® Targeted Corrosion Inhibition	A FUEL CHEM program designed for high-temperature slag and corrosion control, principally in waste-to-energy boilers
TIFI® Targeted In-Furnace Injection	A 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 Fuel Tech's process for generating ammonia for use as SCR reagent

**Table of Contents**

**Fuel Tech Inc. and Subsidiaries**

December 31, 2011

## **Table of Contents**

### **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 Fuel Tech's 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, our, the Company, and Fuel Tech refer to Fuel Tech, Inc. and our wholly-owned subsidiaries.

#### **Fuel Tech**

Fuel Tech is a fully integrated company that uses 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., Fuel Tech became domesticated in the United States on September 30, 2006, and continues as a Delaware corporation with its corporate headquarters at 27601 Bella Vista Parkway, Warrenville, Illinois, 60555-1617. Fuel Tech maintains an Internet website at [www.ftek.com](http://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 Securities Exchange Act of 1934 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. Also available on our website are the Company's Corporate Governance Guidelines and Code of Ethics and Business Conduct, as well as the charters of the audit, compensation and nominating 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.

Fuel Tech's special focus is the worldwide marketing of its nitrogen oxide (NOx) reduction and FUEL CHEM technologies. The Air Pollution Control (APC) technology segment reduces NOx emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources by utilizing combustion optimization techniques and Low NOx and Ultra Low NOx Burners; NOxOUT<sup>®</sup> and HERT High Energy Reagent Technology SNCR systems; systems that incorporate Advanced SCR (ASCR) and NOxOUT CASCAD<sup>®</sup> technologies, ULTRA and NOxOUT-SCR<sup>®</sup> technologies; and Ammonia Injection Grid (AIG) and Graduated Straightening Grid (GSG) technologies. Fuel Tech's APC technology business is materially dependent on the continued existence and enforcement of worldwide air quality regulations. The FUEL CHEM technology segment improves the efficiency, reliability and environmental status of combustion units by controlling slagging, fouling and corrosion, as well as the formation of sulfur trioxide, ammonium bisulfate, particulate matter (PM<sub>2.5</sub>), carbon dioxide, and unburned carbon in fly ash through the addition of chemicals into the fuel or via TIFI<sup>®</sup> Targeted In-Furnace Injection programs. Fuel Tech has other technologies, both commercially available and in the development stage, all of which are related to APC and FUEL CHEM processes or are similar in their technological base.

#### *American Bailey Corporation*

Douglas G. Bailey, Chairman, Chief Executive Officer, President, and Director of Fuel Tech, is a stockholder of American Bailey Corporation (ABC), which is a related party. Please refer to Note 9 to the consolidated financial statements in this document for information about transactions between Fuel Tech and ABC. Additionally, see the more detailed information relating to this subject under the caption Certain Relationships and Related Transactions in Fuel Tech's definitive Proxy Statement to be distributed in connection with Fuel Tech's 2012 Annual Meeting of Stockholders, which information is incorporated by reference.





## **Table of Contents**

### **Air Pollution Control**

#### *Regulations and Markets*

The U.S. air pollution control market, and more specifically federal and state NOx regulations, currently are the primary drivers in Fuel Tech's APC technology segment. This market is dependent on air pollution regulations and their continued enforcement. These regulations are based on the Clean Air Act Amendments of 1990 (the CAAA), which require reductions in NOx emissions on varying timetables with respect to various sources of emissions. Under the State Implementation Plan (SIP) Call, a regulation promulgated under the Amendments (discussed further below), over 1,000 utility and large industrial boilers in 19 states were required to achieve NOx reduction targets by May 31, 2004.

In 1994, governors of 11 Northeastern states, known collectively as the Ozone Transport Region, signed a Memorandum of Understanding requiring utilities to reduce their NOx emissions by 55% to 65% from 1990 levels by May 1999. In 1998, the Environmental Protection Agency (EPA) announced more stringent regulations. The Ozone Transport SIP Call regulation, designed to mitigate the effects of wind-aided ozone transported from the Midwestern and Southeastern U.S. into the Northeastern non-attainment areas, required, following the litigation described below, 19 states to make even deeper aggregate reductions of 85% from 1990 levels by May 31, 2004. Over 1,000 utility and large industrial boilers were affected by these mandates. Additionally, most other states with non-attainment areas were also required to meet ambient air quality standards for ozone by 2007.

Although the SIP Call was the subject of litigation, an appellate court of the D.C. Circuit upheld the validity of this regulation. This court's ruling was later affirmed by the U.S. Supreme Court.

In February 2001, the U.S. Supreme Court, in a unanimous decision, upheld EPA's authority to revise the National Ambient Air Quality Standard (NAAQS) for ozone to 0.080 parts per million averaged through an eight-hour period from the then current 0.120 parts per million for a one-hour period. This more stringent standard provided clarity and impetus for air pollution control efforts well beyond the then current ozone attainment requirement of 2007. In keeping with this trend, the Supreme Court, only days later, denied industry's attempt to stay the SIP Call, effectively exhausting all means of appeal. The ozone NAAQS is currently 0.075 parts per million averaged over an eight-hour period, and EPA is proposing to reduce the Standard to 0.06 or 0.07 parts per million for the most severe non-attainment areas by 2013.

On December 23, 2003, the EPA proposed a new regulation affecting the SIP Call states by specifying more expansive NOx reduction. This rule, under the name Clean Air Interstate Rule (CAIR), was issued by the EPA on March 10, 2005. CAIR specifies that additional annual NOx reduction requirements be extended to most SIP-affected units in 28 Eastern states, while permitting a cap and trade format similar to the SIP Call. The Company estimates an additional 1,300 electric generating units using coal and other fuels to be affected by this rule. In an action related to CAIR, on June 15, 2005, the EPA issued the Clean Air Visibility Rule (CAVR), which is a nationwide initiative to improve federally preserved areas through reduction of NOx and other pollutants. CAVR expands the NOx reduction market to Western states unaffected by CAIR or the SIP Call. Compliance begins in 2013 and CAVR will potentially affect an additional 230 Western coal-fired electric-generating units. In addition, CAVR, along with the EPA rule for revised eight-hour ozone attainment, have the potential to impact thousands of boilers and industrial units in multiple industries nationwide for units burning coal and other fuels starting in 2013.

On July 11, 2008, the U.S. District Court of Appeals for the District of Columbia Circuit vacated the CAIR regulations under the CAAA under the premise that the EPA exceeded its authority when the rule was created in 2005. The court found more than several fatal flaws in the rule but neither took issue with the concept that NOx emissions are to be controlled nor over the limits and thresholds established by CAIR. In vacating the rule in its entirety, the court remanded to EPA to promulgate a rule consistent with the court's opinion. On September 24, 2008, the EPA filed a petition for the case to be reviewed by the full Court of Appeals, not just the three judge panel that issued the vacatur ruling in July 2008. On October 22, 2008, the EPA was granted a 15-day period to present a basis as to why the court should reconsider its decision. On December 23, 2008, the D.C. Circuit Court granted the EPA's petition only to the extent that it remanded the case without vacatur for EPA to conduct further proceedings consistent with the court's prior opinion. In summary, the court stated that allowing CAIR to remain in effect until it is replaced by a rule consistent with our opinion would at least temporarily preserve the environmental values covered by CAIR. CAIR was re-instated and required the affected states to be in year-round NOx emission compliance beginning January 1, 2009.

As a replacement for CAIR, EPA issued the Cross State Air Pollution Rule (CSAPR) in July 2011. CSAPR included more stringent NOx regulations affecting 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. An October 2011 revision to CSAPR delayed the enforcement of these state specific emission caps and requirements until 2014 to provide sources with greater timing flexibility through emission trading. A stay on CSAPR was ordered by the D.C. Circuit Court on December 30, 2011, pending resolution of litigation filed by a number of states and companies with combustion sources. CAIR was put back into effect pending the resolution of the CSAPR stay, which is expected sometime in the middle of

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2012. Fuel Tech's wide range of NOx reduction technologies provides opportunities for sources to meet their unit specific

## **Table of Contents**

emission requirements under CSAPR, both for the first and second phases. While we cannot predict the final form of CSAPR, any unfavorable outcome could have a material adverse effect on our business, results of operations, cash flows, and financial position. However, the primary driver of CSAPR is the Federal Clean Air Act which includes National Ambient Air Quality Standards for criteria pollutants including NO<sub>x</sub> and ozone with emission requirements that continue to tighten. These continue to remain in effect and states must comply with the requirements of this law.

Fuel Tech also sells NO<sub>x</sub> 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, certain power plants must come into compliance with specified NO<sub>x</sub> reduction targets by 2016.

China also represents attractive opportunities for Fuel Tech as the government has set pollution control and energy conservation and efficiency improvements as top priorities. Fuel Tech has viable technologies to help achieve these objectives. China has taken initial steps to reduce NO<sub>x</sub> emissions on new electric utility units (principally Low NO<sub>x</sub> Burners and Over-Fire Air systems and Selective Catalytic Reduction (SCR)), and on-going research and demonstration projects have generated cost and performance data for use in tightened standards that were issued in 2012 and are discussed below. 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 with China's robust economic growth, expected growth in thermal power production, and an increasingly expanded role in international events and organizations.

China has tightened its pollution control standards as part of the Twelfth Five-Year Plan that runs from 2011-2015 for their existing fleet of fossil plants as well as for fossil plants to be built in the future.

China's Ministry of Environmental Protection issued regulations to be implemented as part of the Twelfth Five-Year Plan in support of reducing harmful pollutants and further defining the technologies recommended to achieve the reductions. The regulations for NO<sub>x</sub> apply to all thermal power units that have a steaming rate of 65 tons per hour (155 megawatts (MW)) or larger. Newly constructed units and existing units that were approved subsequent to December 31, 2003, must meet the same stringent emission standard, while certain existing units approved prior to December 31, 2003 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 must comply by January 1, 2012.

In addition, the regulation noted that NO<sub>x</sub> reduction should be achieved via the use of Low NO<sub>x</sub> Burners and Over-Fire Air systems in combination with Selective Non-Catalytic Reduction (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<sub>x</sub> control process in high population density areas, Fuel Tech believes 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.

Fuel Tech has established a market position in NO<sub>x</sub> control resulting from the initial national demonstration projects utilizing NO<sub>x</sub>OUT CASCADE® technology at Jiangsu Kanshan (two new 600 MW units), NO<sub>x</sub>OUT 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), Shannxi (two 660 MW new units) and Liaoning (two 330 MW new units). These projects have established Fuel Tech's NO<sub>x</sub> control technologies as being acceptable for use in reducing NO<sub>x</sub> emissions and have resulted in additional contracts in China. The regulations established in support of the NO<sub>x</sub> standards defined as part of the Twelfth Five-Year Plan will offer potential business opportunities for Fuel Tech and its suite of NO<sub>x</sub> technologies.

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 45% of all U.S. electricity generation and roughly 80% of Chinese electricity generation. Coal's share of global electricity generation is just over 40% today and is forecasted to decline marginally to a level just under 40% by 2035. Major coal consumers include China, the United States and India.

### *Products*

Fuel Tech's NO<sub>x</sub> reduction technologies are installed worldwide on over 700 combustion units, including utility, industrial and municipal solid waste applications. Our products include customized NO<sub>x</sub> control systems and our patented ULTRA™ technology, which converts

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urea-to-ammonia on site which provides safe reagent for use in Selective Catalytic Reduction (SCR) systems.

Low NOx Burners and Ultra Low NOx Burners (LNB and ULNB) are available for coal-, oil-, and gas-fired industrial and utility units. Each system application is specifically designed to maximize NOx reduction. Computational fluid

## **Table of Contents**

dynamics combustion modeling is used to validate the design prior to fabrication of equipment. NOx reductions can range from 40%-60% depending on the fuel type. Over-Fire Air (OFA) systems stage combustion for enhanced NOx reduction. Additional NOx reductions, beyond Low NOx 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 NOx removed, depending on the scope.

Fuel Tech's NOxOUT<sup>®</sup> and HERT<sup>®</sup> SNCR processes use non-hazardous urea as the reagent rather than ammonia. Both the NOxOUT<sup>®</sup> and HERT<sup>®</sup> processes on their own are capable of reducing NOx 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 NOx removed.

Fuel Tech's Advanced Selective Catalytic Reduction (ASCR<sup>®</sup>) systems include LNB, OFA, and SNCR components, along with a downsized SCR catalyst, Ammonia Injection Grid (AIG), and Graduated Straightening Grid (GSG<sup>®</sup>) systems to provide up to 90% NOx 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 NOxOUT CASCADE<sup>®</sup> and NOxOUT-SCR<sup>®</sup> processes are basic types of ASCR systems which use just SNCR and SCR catalyst components. The NOxOUT CASCADE<sup>®</sup> systems can achieve 60% - 70% NOx reduction, with capital costs being a portion of the ASCR values defined above. Fuel Tech's NOxOUT-SCR<sup>®</sup> process utilizes urea as the SCR catalyst reagent to achieve NOx reductions of up to 85% from smaller stationary combustion sources with capital and operating costs competitive with equivalently sized, standard SCR systems.

Fuel Tech's ULTRA<sup>®</sup> process is designed to convert urea to ammonia safely and economically for use as a reagent in the SCR process for NOx 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 (TIH) commodity. This is contributing to new restrictions by rail carriers on the movement of anhydrous ammonia and to an escalation in associated rail transport and insurance rates. Overseas, new coal-fired power plants incorporating SCR systems are expected to be constructed at a rapid rate in China, and Fuel Tech's ULTRA<sup>®</sup> process is believed to be a market leader for the safe conversion of urea to ammonia just prior to injection into the flue 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.

Fuel Tech's 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. Fuel Tech also specializes 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. Fuel Tech designs flow corrective devices, such as turning vanes, ash screens, static mixers and our patent pending Graduated Straightening Grid (GSG<sup>®</sup>). Fuel Tech's 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.

Sales of the NOx reduction technologies were \$50.9 million, \$40.9 million, and \$34.7 million for the years ended December 31, 2011, 2010 and 2009, respectively.

### *NOx Reduction Competition*

Competition with Fuel Tech's NOx reduction suite of products may be expected from companies supplying urea SNCR systems, combustion modification products, SCR systems and ammonia SNCR systems. In addition, Fuel Tech experiences competition in the urea-to-ammonia conversion market.

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

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## **Table of Contents**

The use of ammonia as the reagent for the SNCR process can reduce NOx 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 NOx 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 NOx-emitting fuels or purchase NOx emission allowances.

Lastly, with respect to urea-to-ammonia conversion technologies, a competitive approach to Fuel Tech's 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, 2011 was \$30.8 million versus backlog at December 31, 2010 of \$19.3 million. Substantially all of the backlog as of December 31, 2011 should be recognized as revenue in fiscal 2012, although the timing of such revenue recognition in 2012 is subject to the timing of the expenses incurred on existing projects.

## **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, 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 Fuel Tech's proprietary TIFI technology. By attacking performance-hindering problems, such as slagging, fouling and corrosion, as well as the formation of sulfur trioxide (SO<sub>3</sub>), ammonium bisulfate (ABS), particulate matter (PM<sub>2.5</sub>), carbon dioxide (CO<sub>2</sub>), NOx and unburned carbon in fly ash, the Company's 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 45% of all U.S. electricity generation and roughly 80% of Chinese electricity generation. Coal's share of global electricity generation is just over 40% today and is forecasted to decline marginally to a level just under 40% by 2035. Major coal consumers include the United States, China and India.

The principal markets 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 SO<sub>3</sub> formation especially in plants with SCR systems and flue gas desulfurization units (scrubbers).

The combination of slagging coals and SO<sub>3</sub>-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. Fuel Tech has successfully treated such units with its TIFI and in-Fuel technologies. To capitalize on this market opportunity, the Company has a license implementation agreement until 2015 with options for renewal with a large Mexican energy company to implement our TIFI program for utility and industrial end user customers in Mexico. In 2011, our TIFI program was in continuous use on three boilers at one of this Company's power plants (110 MW generating capacity). In addition, we have installed TIFI equipment on three boilers at a different power plant (610 MW) affiliated with this Company. The first of these units has successfully undergone an initial test in 2011.

Sales of the FUEL CHEM products were \$42.7 million, \$40.9 million, and \$36.7 million for the years ended December 31, 2011, 2010, and 2009, respectively.





## **Table of Contents**

### *Competition*

Competition for Fuel Tech's FUEL CHEM product line includes chemicals sold by specialty chemical and combustion engineering companies, such as GE Infrastructure, Ashland Inc., and Environmental Energy Services, Inc. No substantive competition currently exists for Fuel Tech's TIFI technology, which is designed primarily for slag control and SO<sub>3</sub> abatement, but there can be no assurance that such lack of substantive competition will continue.

## **INTELLECTUAL PROPERTY**

The majority of Fuel Tech's products are protected by U.S. and non-U.S. patents. Fuel Tech owns 72 granted patents worldwide and has 11 patent applications pending in the United States and 89 pending in non-U.S. jurisdictions. These patents and applications cover some 37 inventions, 19 associated with the NOx reduction business, 9 associated with the FUEL CHEM business and 9 associated with non-commercialized technologies. Our patents have expiration dates ranging from January 30, 2012 to November 9, 2028. The average remaining duration of our patents is approximately eight years. Six patents are due to expire in 2012. These patents cover four inventions. Two of these patents are US patents.

Seven patents were acquired in 2011 that cover four distinct technologies and are currently not commercialized.

Fuel Tech believes that the protection provided by the numerous claims in the above referenced patents or patent applications is substantial, and affords Fuel Tech a significant competitive advantage in its 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 Fuel Tech's business.

## **EMPLOYEES**

At December 31, 2011, Fuel Tech had 168 employees, 140 in North America, 20 in China and 8 in Europe. Fuel Tech enjoys good relations with its employees and is not a party to any labor management agreement.

## **Table of Contents**

### **ITEM 1A - RISK FACTORS**

Investors in Fuel Tech should be mindful of the following risk factors relative to Fuel Tech's business.

#### **(i) Lack of Diversification**

Fuel Tech has 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 NOx emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low and Ultra Low NOx Burners (LNB and ULNB), Over-Fire Air (OFA) systems, NOxOUT® 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 NOx reductions at significantly lower capital and operating costs than conventional SCR systems. The NOxOUT CASCADE® and NOxOUT-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 Fuel Tech's advanced engineering solution business as a result of competition, technological change, government regulation, or any other factor could have a significantly greater impact than if Fuel Tech maintained more diverse operations.

#### **(ii) Competition**

Competition in the Air Pollution Control market comes from competitors utilizing their own NOx reduction processes, including SNCR systems, Low NOx Burners, Over-Fire Air systems, flue gas recirculation, ammonia SNCR, SCR and, with respect to particular uses of urea not infringing Fuel Tech's patents (see Item 1 Intellectual Property in the *Air Pollution Control* segment overview). Competition will also come 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 Fuel Tech's pricing and participation in the NOx control market if customers elect to comply with regulations by methods other than the purchase of Fuel Tech's suite of Air Pollution Control products. See Item 1 *Products* and *NOx 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 Fuel Tech's patented TIFI technology, which is designed primarily for slag control and SO<sub>2</sub> abatement. However, there can be no assurance that such lack of significant competition will continue.

#### **(iii) Dependence on and Change in Air Pollution Control Regulations and Enforcement**

Fuel Tech's 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 NOx 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, based

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on the theory that gases emitted therefrom impact climate change through a greenhouse effect, and result in the reduction or closure of a significant number of fossil fuel-fired power plants, may adversely affect the Company's business, financial condition and results of operations. See Item 1 above under the caption *Regulations and Markets* in the *Air Pollution Control* segment overview.

### (iv) Protection of Patents and Proprietary Rights

Fuel Tech holds licenses to or owns a number of patents for our products and processes. In addition, we also have numerous patents pending. There can be no assurance that pending patent applications will be granted or that outstanding patents will not be challenged or circumvented by competitors. Moreover, the absence of harmonized patent laws outside of the United States makes it more difficult to ensure consistent respect for our patent rights in emerging markets. Certain critical technology relating to our products is protected by trade secret laws and by confidentiality and licensing agreements. There can be no assurance that such protection will prove adequate or that we will have adequate remedies against contractual counterparties for disclosure of our trade secrets or violations of Fuel Tech's intellectual property rights. See Item 1 Intellectual Property.

## **Table of Contents**

### **(v) Foreign Operations**

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

### **(vi) Product Pricing and Operating Results**

The onset of significant competition for either of the technology segments might have an adverse impact on product pricing and a resulting adverse impact on realized gross margins and operating profitability.

### **(vii) Raw Material Supply and Pricing**

The FUEL CHEM technology segment is dependent, in part, upon a supply of magnesium hydroxide. Any adverse change 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 until December 31, 2013, the date of the expiration of the PSA. Magnesium hydroxide products are a significant component of the FUEL CHEM programs. 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 Fuel Tech will be able to obtain a stable source of magnesium hydroxide in markets outside the United States.

### **(viii) Customer Access to Capital Funds**

Uncertainty about current economic conditions in the United States and globally poses risk that Fuel Tech's customers may postpone spending for capital improvement projects in response to tighter credit markets, negative financial news and/or decline in demand for electricity generated by combustion units, all of which could have a material negative effect on demand for the Fuel Tech's products and services.

### **(ix) Customer Concentration**

A small number of customers have historically accounted for a material portion of Fuel Tech's revenues (see Item 8, note 1 *Organization and Significant Accounting Policies*, under the caption *Risk Concentrations*). There can be no assurance that Fuel Tech's current customers will continue to place orders, that orders by existing customers will continue at the levels of previous periods, or that Fuel Tech 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.

### **(x) Domestic Credit Facility**

Fuel Tech is party to a \$15 million domestic revolving credit agreement with JPMorgan Chase Bank, N.A. As of December 31, 2011, there were no outstanding borrowings on this facility and Fuel Tech was in compliance with all financial covenants contained in the agreement. In addition, Beijing Fuel Tech Environmental Technologies Company, Ltd. has a RMB \$35 million (approximately \$5.5 million) revolving credit facility with JPMorgan Chase Bank (China) Company Limited. As of December 31, 2011 the outstanding borrowings on this facility were approximately \$1.2 million. In the event of any default on the part of Fuel Tech or Beijing Fuel Tech 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 the Company 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 the Company's cash position to significantly deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require the Company to obtain alternate financing. See *Liquidity and Sources of Capital* under Item 7 *Management's Discussion and Analysis of Financial Condition and Results of Operations*.

**ITEM 1B - UNRESOLVED STAFF COMMENTS**

None

## **Table of Contents**

### **ITEM 2 - PROPERTIES**

Fuel Tech owns 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.

Fuel Tech and its subsidiaries also operate from leased office facilities in Stamford, Connecticut; Durham, North Carolina; Gallarate, Italy and Beijing, China. Fuel Tech does not segregate any of its leased facilities by operating business segment. The terms of the Company's 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, 2011 to August 31, 2012. This facility serves as the operating headquarters for our Beijing Fuel Tech operation. Fuel Tech has 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. Fuel Tech has no option to extend the lease.

The Gallarate, Italy building lease term, for approximately 1,300 square feet, runs from July 1, 2005 to April 30, 2013. This facility serves as the operating headquarters for our Italy 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 conditions, results of operations, or prospects.

In 2011, Fuel Tech filed a series of civil actions in the Second People's Intermediate Court of Beijing against Liu Minghui, Zhu Limin and related parties who formerly worked with Fuel Tech (collectively, the Defendants.) In the actions, Fuel Tech seeks damages and equitable relief based upon alleged unfair competition due to misappropriation of Fuel Tech's property and trade secrets and other misconduct in China by the Defendants, and Fuel Tech also has asserted prior ownership rights over Chinese patents filed in China by certain of the Defendants pertaining to air pollution control technologies. Certain of the Defendants have filed actions before the Chinese Patent Review Board seeking to invalidate two China patents held by Fuel Tech for use in China relating to its ULTRA product line. These actions are in various stages, but management does not currently believe that based on the facts at hand that resolution of the actions would have a material adverse impact on Fuel Tech's business in China.

### **ITEM 4 - MINE SAFETY DISCLOSURES**

Not Applicable

**Table of Contents****PART II****ITEM 5 - MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASE OF EQUITY SECURITIES****Market**

Fuel Tech's 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 2010.

<b>2011</b>	<b>High</b>	<b>Low</b>
Fourth Quarter	\$ 7.01	\$ 4.70
Third Quarter	7.46	3.77
Second Quarter	9.00	5.78
First Quarter	11.20	7.04
<b>2010</b>	<b>High</b>	<b>Low</b>
Fourth Quarter	\$ 10.04	\$ 5.95
Third Quarter	6.81	5.36
Second Quarter	8.41	5.15
First Quarter	9.29	5.27

**Dividends**

Fuel Tech has never paid cash dividends on its common stock and has no current plan to do so in the foreseeable future. The declaration and payment of dividends on the Common Stock are subject to the discretion of the Company's 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 Company's Board of Directors is to reinvest earnings in operations to promote future growth.

**Share Repurchase Program**

In August 2011, Fuel Tech's Board of Directors authorized the repurchase of up to \$6 million of its outstanding common shares through December 31, 2012. The share repurchase program will be funded through the Company's existing cash on hand. Purchases made pursuant to the program will be made in either the open market or in privately negotiated transactions from time to time as permitted by federal securities laws and other legal requirements. The timing, manner, price and amount of any repurchases will be determined by the Company in its discretion and will be subject to economic and market conditions, stock price, applicable legal requirements, and other factors. The program may be suspended or discontinued at any time.

For the year ended December 31, 2011, Fuel Tech repurchased an aggregate of 701,714 common shares for a total cost of approximately \$4.1 million including commissions of approximately \$28,000. These acquired shares have been retired and are no longer shown as issued or outstanding shares. As of December 31, 2011, the Company is authorized to repurchase additional shares with a cost up to approximately \$1.9 million under its share repurchase program. The following table summarizes our share repurchase program since its inception:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Maximum Dollar Value of Shares That May Yet Be
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			Purchased Under the Program
August 25, 2011 through September 30, 2011	571,554	\$ 5.89	\$ 2,633,000
October 1, 2011 through December 31, 2011	130,160	5.71	1,889,000
<b>Total</b>	<b>701,714</b>	<b>\$ 5.86</b>	<b>\$ 1,889,000</b>

## **Holders**

Based on information from the Company's Transfer Agent and from banks and brokers, the Company estimates that, as of February 22, 2012, there were approximately 11,400 beneficial holders and 222 registered stockholders of Fuel Tech's Common Shares.



**Table of Contents**

**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 Fuel Tech's total return to stockholders per share of Common Stock for the five years ended December 31, 2011 to that of the NASDAQ Composite Index and the WilderHill Progressive Energy Index for the period December 31, 2006 through December 30, 2011.

**Table of Contents****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, 2011. The selected financial data should be read in conjunction with the audited consolidated financial statements as of and for the year ended December 31, 2011, and Management's Discussion and Analysis of Financial Condition and Results of Operations included elsewhere in this report and the schedules thereto. As a result of the acquisitions of substantially all of the assets of Advanced Combustion Technology, Inc. in the first quarter of 2009, and Tackticks, LLC and FlowTack, LLC in the fourth quarter of 2008, the Company's condensed consolidated results for the periods presented are not directly comparable.

<b>CONSOLIDATED STATEMENT of OPERATIONS DATA</b> (in thousands of dollars, except for share and per-share data)	<b>For the years ended December 31</b>				
	2011	2010	2009	2008	2007
Revenues	\$ 93,668	\$ 81,795	\$ 71,397	\$ 81,074	\$ 80,297
Cost of sales	49,857	46,821	42,444	44,345	42,471
Selling, general and administrative and other costs and expenses	34,162	31,037	32,034	30,502	27,087
Operating income (loss)	9,649	3,937	(3,081)	6,227	10,739
Net income (loss)	6,148	1,753	(2,306)	3,360	7,243
Basic income (loss) per common share	\$ 0.26	\$ 0.07	\$ (0.10)	\$ 0.14	\$ 0.33
Diluted income (loss) per common share	\$ 0.25	\$ 0.07	\$ (0.10)	\$ 0.14	\$ 0.29
Weighted-average basic shares outstanding	24,095,000	24,213,000	24,148,000	23,608,000	22,280,000
Weighted-average diluted shares outstanding	24,633,000	24,405,000	24,148,000	24,590,000	24,720,000
<b>CONSOLIDATED BALANCE SHEET DATA</b> (in thousands of dollars)	<b>December 31</b>				
	2011	2010	2009	2008	2007
Working capital	\$ 43,626	\$ 36,645	\$ 30,578	\$ 43,956	\$ 45,143
Total assets	112,990	103,203	92,262	88,631	87,214
Long-term obligations	1,347	1,482	2,196	1,389	1,255
Total liabilities	23,977	19,293	14,040	15,056	23,975
Stockholders' equity (1)	89,013	83,910	78,222	73,575	63,239

Notes:

- (1) Stockholders' equity includes the principal amount of nil coupon non-redeemable perpetual loan notes. See Note 5 to the consolidated financial statements.

## **Table of Contents**

### **ITEM 7 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

*(amounts in thousands of dollars)*

#### **Background**

Fuel Tech, Inc. (Fuel Tech) has 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 NOx emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low and Ultra Low NOx Burners (LNB and ULNB), Over-Fire Air (OFA) systems, NOxOUT® 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 NOx reductions at significantly lower capital and operating costs than conventional SCR systems. The NOxOUT CASCADE® and NOxOUT-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. Fuel Tech distributes its products through its direct sales force and 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 are 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 45% of all U.S. electricity generation and roughly 80% of Chinese electricity generation. Coal's share of global electricity generation is just over 40% today and is forecasted to decline marginally to a level just under 40% by 2035. 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 Company's Audit Committee.

##### *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.

Fuel Tech uses 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, 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, 2011, Fuel Tech had one construction contract in progress that

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was identified as loss contract in the amount of \$201. As of December 31, 2010, Fuel Tech had no construction contracts in progress that were identified as loss contracts.

## **Table of Contents**

Fuel Tech's APC contracts are typically 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 its contractual APC project agreements, Fuel Tech will agree 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 Fuel Tech personnel, which is based on operational inputs that are provided by the customer. The customer will warrant that these operational inputs are accurate as they are specified in the binding contractual agreement. Further, the 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, 2011 and December 31, 2010, unbilled receivables were approximately \$11,334 and \$6,800, respectively, and are included in accounts receivable on the consolidated balance sheet. Billings in excess of costs and estimated earnings on uncompleted contracts were \$3,895 and \$650 at December 31, 2011 and December 31, 2010, respectively, and are included in other accrued liabilities on the consolidated balance sheet.

Fuel Tech has installed over 700 units with APC technology and normally provides 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 the Company'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. Our historical credit loss has been insignificant.

### *Assessment of Potential Impairments of Goodwill and Intangible Assets*

Goodwill and indefinite-lived intangible assets are no longer amortized, but rather are reviewed annually (in the fourth quarter) or more frequently if indicators arise, for impairment. The Company does 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. Fuel Tech has two reporting units which are reported in the FUEL CHEM segment and the APC technology segment. As of December 31, 2011 and 2010, 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 the Company's expected future cash flows and yield a fair value that should be in line with the aggregate market value placed on the Company via 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

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and working capital changes. Events outside the Company's 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.

## **Table of Contents**

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 may 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, 2011 and 2010, the Company believes that, in order for an impairment to occur, our actual revenue growth in future periods would need to differ materially from the projected revenue growth 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 Fuel Tech's 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, Fuel Tech 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*

Fuel Tech recognizes 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 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.

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In addition, Fuel Tech utilizes 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.



## **Table of Contents**

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

### *Recently Adopted Accounting Standards*

In June 2011, the Financial Accounting Standards Board (FASB) issued amended disclosure requirements for the presentation of comprehensive income. The amended guidance eliminates the option to present components of other comprehensive income (OCI) as part of the statement of changes in equity. Under the amended guidance, all changes in OCI are to be presented either in a single continuous statement of comprehensive income or in two separate but consecutive financial statements. The changes are effective January 1, 2012 with earlier adoption permitted. In addition, in December 2011, the FASB issued an amendment to this accounting standard which defers the requirement to present components of reclassifications of other comprehensive income on the face of the income statement. We adopted the provisions of this amendment on January 1, 2012, which will only affect our financial statement presentation and will have no impact to our consolidated financial results.

In May 2011, the FASB issued guidance titled *Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and International Financial Reporting Standard (IFRS)*, to converge fair value measurement and disclosure guidance in U.S. GAAP with the guidance in the International Accounting Standards Board's concurrently issued IFRS 13, Fair Value Measurement. This accounting guidance does not modify the requirements for when fair value measurements apply; rather, it generally provides clarifications on how to measure and disclose fair value under the Accounting Standards Codification 820, Fair Value Measurement. The amendments in this accounting guidance are effective prospectively for interim and annual periods beginning after December 15, 2011. Early adoption is not permitted for public entities. We adopted the provisions of this amendment on January 1, 2012 and it is not expected to have a material impact on our financial statements.

In September 2011, the FASB issued new authoritative guidance titled *Testing Goodwill for Impairment*. The guidance provides the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the results of the qualitative analysis indicate it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, the quantitative two-step impairment test, which was required under previous U.S. GAAP, would not be necessary. The guidance is effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011 and early adoption is permitted. We early adopted this guidance in the period ended September 30, 2011 and it did not have an impact on our consolidated financial position or results of operations.

### **2011 versus 2010**

Revenues for the years ended December 31, 2011 and 2010 were \$93,668 and \$81,795, respectively. The year-over-year increase of \$11,873, or 15%, was predominantly driven by increased revenue in both the APC technology and FUEL CHEM segments. International revenues for the years ended December 31, 2011 and 2010 were \$17,591 and \$12,793, respectively. The increase of \$4,798 in foreign revenues is attributed to our China operations.

Revenues for the APC technology segment were \$50,930 for the year ended December 31, 2011, an increase of \$10,013, or 25%, versus fiscal 2010. This increase is predominantly attributed to higher activity on capital projects driven by governmental regulations. Backlog for the years ended December 31, 2011 and 2010 was \$30.8 million and \$19.3 million, respectively.

Revenues for the FUEL CHEM technology segment for the year ended December 31, 2011 were \$42,738, an increase of \$1,860, or 5% versus fiscal 2010. During 2011, Fuel Tech added revenue from 9 new units to its existing customer base. Revenue from coal-fired units increased by \$1,911 or 5%.

Cost of sales for the years ended December 31, 2011 and 2010 were \$49,857 and \$46,821, respectively. Cost of sales as a percentage of revenues for the years ended December 31, 2011 and 2010 were 53% and 57%, respectively. Cost of sales as a percentage of revenue for the APC technology segment decreased to 56% in 2011 from 66% in 2010. The decrease is attributed to the mix of higher margin project business. Cost of sales as a percentage of revenue for the FUEL CHEM technology segment increased to 50% in 2011 from 48% in 2010 due to the effect of a \$2,000 successful demonstration fee recorded during 2010 without offsetting program costs and other costs normally associated with a foreign demonstration.

Selling, general and administrative expenses for the years ended December 31, 2011 and 2010 were \$33,446 and \$30,857, respectively. The increase of \$2,589, or 8%, is primarily attributed to the following:

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Internal and external commissions and bonuses increased \$2,048 as a result of increased revenue and profits from both of the product segments.

Fees paid to outside service providers increased \$1,118 as a result of strategic and operational activities.

Costs associated with our international operations increased \$706 due mainly to increased hiring and business expansion in our China subsidiary.

Bad debt expense increased \$460 due to the write-off of certain receivables no longer expected to be collected.

## **Table of Contents**

Partially offsetting these amounts was a decrease in stock compensation expense of \$1,455 due to the full vesting of options with a comparative higher value than more recent grants.

Research and development ( R&D ) expenses were \$1,474 and \$948 for the years ended December 31, 2011 and 2010, respectively. The increase in R&D expenditures is aligned with the Company's increased emphasis on investing in new product design and innovation for our product lines. Fuel Tech has maintained its focused approach in the pursuit of commercial applications for its technologies outside of its 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, 2011 increased by \$24 to \$35 versus 2010 predominantly due to a increase in the average return on the Company's interest-bearing accounts in which the cash is invested. Interest expense of \$148 was recorded in 2011 on the debt incurred to start-up activities at Fuel Tech's office in Beijing, China, compared to \$143 in the prior year. Finally, the modest change in other income/(expense) is due to the impact of foreign exchange rates as it relates to balances denominated in foreign currencies that are translated into U.S. dollars for reporting purposes.

For the year ended December 31, 2011, Fuel Tech recorded income tax expense of \$3,109 on the Company's pre-tax income of \$9,257. Our effective tax rate of 33.6% approximated the federal statutory rate of 34% as a result of increases from state taxes and the effect of our permanent items offset by 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. For the year end December 31, 2010, Fuel Tech recorded an income tax expense of \$1,933 on the Company's pre-tax income of \$3,686.

### **2010 versus 2009**

Revenues for the years ended December 31, 2010 and 2009 were \$81,795 and \$71,397, respectively. The year-over-year increase of \$10,398, or 15%, was driven by increased revenue in both the APC technology and FUEL CHEM segments. International revenues for the years ended December 31, 2010 and 2009 were \$12,793 and \$16,002, respectively.

Revenues for the APC technology segment were \$40,917 for the year ended December 31, 2010, an increase of \$6,196, or 18%, versus fiscal 2009. This increase is predominantly attributed to higher activity on capital projects as evidenced by a strong backlog balance at both the beginning and end of 2010. Backlog for the years ended December 31, 2010 and 2009 was \$19.3 million and \$22.0 million, respectively.

Revenues for the FUEL CHEM technology segment for the year ended December 31, 2010 were \$40,878, an increase of \$4,202, or 11% versus fiscal 2009. Contributing to this year over year increase was a \$2 million contingent risk share payment received in 2010 relating to a successful demonstration in the second half of 2009 (see discussion below). During 2010, Fuel Tech added 7 new coal-fired units to its customer base. Revenue from coal-fired units increased by \$4,854 or 15%.

During a FUEL CHEM demonstration period, the Company will typically absorb all of the direct costs (e.g., chemicals, on-site personnel, equipment depreciation and demonstration-related travel expenses) and indirect costs of operating the demonstration and will offset these costs with partial billings to the customer. While each demonstration is unique, a typical demonstration will operate for 90 days and the Company will accumulate future billing amounts that will usually be invoiced to the customer only if the FUEL CHEM program converts to commercial status. These amounts may range from less than \$100 to over \$1,000 depending on the quantity of chemical fed, the agreed-upon cost sharing arrangement and the length of the demonstration program.

During the demonstration period, the aggregate cost of all FUEL CHEM demonstration programs will have a dilutive effect on the segment gross margin percentage as the related revenues earned will approximate the costs incurred and result in nominal gross margin dollars being recorded. In certain situations, the Company agrees to fully fund a demonstration program due to the strategic importance of its success and conversion to commercial status. In these cases, the specific program's recognized revenues will be zero and the gross margin dollar contribution will be negative by the amount of the program's cost, thus even further diluting the segment's gross margin percentage.

Cost of sales for the year ended December 31, 2010 and 2009 was \$46,821 and \$42,444, respectively. Cost of sales as a percentage of revenues for the years ended December 31, 2010 and 2009 was 57% and 59%, respectively. Cost of sales as a percentage of revenue for the APC technology segment increased to 66% in 2010 from 62% in 2009. The increase is attributed to the mix of lower margin project business, including one large contract with a significant amount of lower margin installation work at a nominal mark-up percentage. Cost of sales as a percentage of revenue for the FUEL CHEM technology segment decreased to 48% in 2010 from 57% in 2009 primarily due to the risk share payment of \$2 million received during 2010.

Selling, general and administrative expenses for the years ended December 31, 2010 and 2009 were \$30,857 and \$32,273, respectively. The decrease of \$1,416, or 4%, is attributed to the following:

Personnel and other expenses related to the reduction and restructuring of the workforce decreased \$1,012 for fiscal 2010.

## **Table of Contents**

Stock compensation expense decreased \$1,782 due to the full vesting of options with a comparative higher value than recent grants.

Fees paid to outside service providers decreased \$501 as a result of strategic hiring and cost containment measures.

Depreciation decreased year over year \$243 as a result of an accelerated leasehold improvement that was terminated in January 2010.

Partially offsetting these amounts was an increase of \$1,389 relating to the implementation of new incentive programs for domestic and international employees, and

Internal and external commissions and bonuses increased \$740 as a result of increased revenue from both of the product segments. Research and development ( R&D ) expenses were \$948 and \$542 for the years ended December 31, 2010 and 2009, respectively. The increase in R&D expenditures is aligned with the Company's increased emphasis on investing in new product design and innovation for our product lines. Fuel Tech has maintained its focused approach in the pursuit of commercial applications for its technologies outside of its 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, 2010 decreased by \$21 to \$11 versus 2009 predominantly due to a decrease in the average return on the Company's interest-bearing accounts in which the cash is invested. Interest expense of \$143 was recorded in 2010 on the debt incurred to start-up activities at Fuel Tech's office in Beijing, China, compared to \$120 in the prior year. The increase is primarily related to differences in foreign exchange rates and not changes in the principal balance of the debt outstanding or changes in interest rates. Finally, the modest change in other income/(expense) is due to the impact of foreign exchange rates as it relates to balances denominated in foreign currencies that are translated into U.S. dollars for reporting purposes.

For the year ended December 31, 2010, Fuel Tech recorded income tax expense of \$1,933 on the Company's pre-tax income of \$3,686. Our effective tax rate of 52.4% was higher than our expected rate of approximately 46% due primarily to higher than expected losses in 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. For the year end December 31, 2009, Fuel Tech recorded an income tax benefit of \$1,104 on the Company's pre-tax loss of (\$3,410).

## **Liquidity and Sources of Capital**

At December 31, 2011, Fuel Tech had cash and cash equivalents of \$28,229 and working capital of \$43,626 versus cash and cash equivalents of \$30,524 and working capital of \$36,645 at December 31, 2010. Operating activities provided \$4,858 of cash for the year ended December 31, 2011, primarily due to the add back of non-cash items from our net income of \$6,148 including stock compensation expense of \$2,810 and depreciation and amortization of \$3,720, as well as an increase in accounts payable, accrued expenses, and other non-current liabilities of \$5,260 due to the timing of vendor invoices and related payments and a decrease in our inventory balance of \$504 due to decreases in various inventory component parts. Partially offsetting these items were subtractions of non-cash items from our net income including an increase in our provision for doubtful accounts of \$348, an increase in our deferred income tax provision of \$793, and a gain from the revaluation of the earn-out related to our acquisition of Advanced Combustion Technology of \$758, as well as an increase in accounts receivable of \$13,279 due to the timing of customer receipts and progress billings on projects and an increase in our prepaid expense and other current assets of \$723.

Operating activities provided \$12,190 of cash for the year ended December 31, 2010, primarily due to the add back of non-cash items from our net income of \$1,753 including stock compensation expense of \$4,274 and depreciation and amortization of \$4,081, as well as an increase in accounts payable, accrued expenses, and other non-current liabilities of \$7,144 due to the timing of vendor invoices and related payments. Partially offsetting these items were subtractions of non-cash items from our net income including a gain from the revaluation of the earn-out related to our acquisition of Advanced Combustion Technology of \$768 and the effect of changes in our deferred income tax provision of \$588, as well as an increase in accounts receivable of \$3,377 due to the timing of customer receipts and progress billings on projects and an increase in spare parts inventory of \$354.

Investing activities used cash of \$2,406 for the year ended December 31, 2011 related to the purchases of equipment and patents to support the operations of our business. Investing activities used cash of \$2,006 for the year ended December 31, 2010 related to purchases of equipment and patents of \$2,206 primarily to support and enhance the operations of our business offset by a decrease in the restricted cash balance of \$200 described below.

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Financing activities used cash of \$4,820 for the year ended December 31, 2011 for the repayment of our debt in China of \$1,162 and for the repurchase of our common stock of \$4,111. These uses were offset by proceeds from stock option exercises totaling \$376 and the excess tax benefits related to those stock option exercises in the amount of \$77. The Company used cash from financing activities for the year ended December 31, 2010 of \$732, primarily due to repayments of \$737 for the debt obligation that has been used to support the growth of the Beijing office.

On June 30, 2011, Fuel Tech amended its existing revolving credit facility (the Facility) with JPMorgan Chase Bank, N.A (JPM Chase) to extend the maturity date through June 30, 2013. The amendment decreases the total borrowing base of the facility to \$15,000 from \$25,000 and contains a provision to increase the facility up to a total principal amount of \$25,000 upon approval

**Table of Contents**

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 under a formula related to the Company's leverage ratio, and has the Company's Italian subsidiary, Fuel Tech S.r.l., as a guarantor. Fuel Tech can use this Facility for cash advances and standby letters of credit. As of December 31, 2011 and 2010, there were no outstanding borrowings on the amended or previous credit facilities.

The Facility contains several debt covenants with which the Company 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 1.5:1.0 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 \$50,000, adjusted upward for 50% of net income generated and 100% of all capital issuances. At December 31, 2011, the Company was in compliance with all financial covenants specified by the Facility.

At December 31, 2011 and 2010, the Company had outstanding standby letters of credit and bank guarantees totaling approximately \$1,374 and \$1,265, respectively, on its domestic credit facility in connection with contracts in process. Fuel Tech is committed to reimbursing the issuing bank for any payments made by the bank under these instruments. At December 31, 2011 and 2010, there were no cash borrowings under the domestic revolving credit facility and approximately \$13,626 and \$23,735, respectively, was available for future borrowings. The Company pays a commitment fee of 0.25% per year on the unused portion of the revolving credit facility.

On June 30, 2011, Beijing Fuel Tech Environmental Technologies Company, Ltd. (Beijing Fuel Tech), a wholly-owned subsidiary of Fuel Tech, entered into a new revolving credit facility (the China Facility) agreement with JPM Chase for RMB 35 million (approximately \$5,511), which expires on June 29, 2012. This new credit facility replaced the previous RMB 45 million facility that expired on June 30, 2011. The facility is unsecured, bears interest at a rate of 125% of the People's Bank of China (PBOC) Base Rate, and is guaranteed by Fuel Tech. Beijing Fuel Tech can use this facility for cash advances and bank guarantees. As of December 31, 2011 and 2010, Beijing Fuel Tech had borrowings outstanding in the amount of \$1,181 and \$2,269, respectively. These borrowings were subject to interest rates of approximately 7.6% and 5.8% at December 31, 2011 and December 31, 2010, respectively.

At December 31, 2011 and 2010, the Company had outstanding standby letters of credit and bank guarantees totaling approximately \$750 and \$348, respectively, on its Beijing Fuel Tech revolving credit facility in connection with contracts in process. At December 31, 2011 and 2010, approximately \$3,580 and \$3,983 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 the Company 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 the Company's cash position to deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require the Company to obtain alternate financing to satisfy the accelerated payment.

Interest payments in the amount of \$148 and \$143 were made during the years ended December 31, 2011 and 2010, respectively.

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

**Contractual Obligations and Commitments**

In its normal course of business, Fuel Tech enters into agreements that obligate the Company 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**

<b>Contractual Cash Obligations</b>	<b>Total</b>	<b>2012</b>	<b>2013-2014</b>	<b>2015-2016</b>	<b>Thereafter</b>
Short-term debt obligations	\$ 1,181	\$ 1,181	\$	\$	\$

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Estimated interest payments on debt obligations*	90	90			
Operating lease obligations	2,847	565	832	580	870
Total	\$ 4,118	\$ 1,836	\$ 832	\$ 580	\$ 870



## **Table of Contents**

\* Debt obligations consist solely of borrowings under the Company's Chinese revolving credit facility which bears interest at a rate of 125% of the People's Bank of China (PBOC) Base Rate, or 7.6%, at December 31, 2011. Interest payments in the amount of \$148, \$143, and \$120 were made during the years ended December 31, 2011, 2010 and 2009, respectively.

Fuel Tech, in the normal course of business, uses 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, Fuel Tech uses 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, 2011, Fuel Tech had outstanding bank performance obligations that may or may not result in cash obligations as follows:

### **Commitment expiration by period in thousands of dollars**

<b>Commercial Commitments</b>	<b>Total</b>	<b>2012</b>	<b>2013-2014</b>	<b>2015-2016</b>	<b>Thereafter</b>
Standby letters of credit and bank guarantees	\$ 2,124	\$ 1,046	\$ 835	\$ 243	\$
Performance Surety Bonds	\$ 2,742	\$ 2,708	\$ 34	\$	\$
<b>Total</b>	<b>\$ 4,866</b>	<b>\$ 3,754</b>	<b>\$ 869</b>	<b>\$ 243</b>	<b>\$</b>

### **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, 2011.

## **ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

Fuel Tech's 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 immaterial nature of the transactions involved.

Fuel Tech is also exposed to changes in interest rates primarily due to its debt arrangement (refer to Note 8 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, 2012.

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**Table of Contents**

**ITEM 8 - FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

**Report of Independent Registered Public Accounting Firm**

To the Board of Directors and Stockholders

Fuel Tech, Inc. and Subsidiaries

We have audited the accompanying consolidated balance sheets of Fuel Tech, Inc. and Subsidiaries as of December 31, 2011 and 2010, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2011. We also have audited Fuel Tech, Inc. and Subsidiaries' internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Fuel Tech, Inc. and Subsidiaries' 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. and Subsidiaries as of December 31, 2011 and 2010, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2011, in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, Fuel Tech, Inc. and Subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

/s/ McGladrey & Pullen, LLP

Schaumburg, Illinois

March 5, 2012

**Table of Contents**

**Report of Independent Registered Public Accounting Firm**

Board of Directors and Stockholders

Fuel Tech, Inc.

We have audited the accompanying consolidated statement of operations, stockholders' equity, and cash flows of Fuel Tech, Inc. and Subsidiaries (the "Company") for the year ended December 31, 2009. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the operations and cash flows of Fuel Tech, Inc. and Subsidiaries for the year ended December 31, 2009, in conformity with accounting principles generally accepted in the United States of America.

/s/ GRANT THORNTON LLP

Chicago, Illinois  
March 4, 2010

**Table of Contents****Fuel Tech, Inc.****Consolidated Balance Sheets***(in thousands of dollars, except share and per-share data)*

	December 31,	
	2011	2010
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 28,229	\$ 30,524
Marketable securities	57	
Accounts receivable, net of allowance for doubtful accounts of \$430 and \$82, respectively	34,346	21,175
Inventories	311	807
Prepaid expenses and other current assets	2,026	1,861
Income taxes receivable	1,124	
Deferred income taxes	163	89
Total current assets	66,256	54,456
Property and equipment, net of accumulated depreciation of \$18,239 and \$15,767, respectively	13,625	14,384
Goodwill	21,051	21,051
Other intangible assets, net of accumulated amortization of \$3,385 and \$3,203, respectively	5,442	6,050
Deferred income taxes	3,798	5,000
Other assets	2,818	2,262
Total assets	\$ 112,990	\$ 103,203
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Short-term debt	\$ 1,181	\$ 2,269
Accounts payable	10,476	7,516
Accrued liabilities:		
Employee compensation	4,902	2,863
Income taxes payable		1,857
Other accrued liabilities	6,071	3,306
Total current liabilities	22,630	17,811
Other liabilities	1,347	1,482
Total liabilities	23,977	19,293
Stockholders' equity:		
Common stock, \$.01 par value, 40,000,000 shares authorized, 23,644,301 and 24,213,467 shares issued and outstanding, respectively	237	242
Additional paid-in capital	132,350	129,424
Accumulated deficit	(44,031)	(46,075)
Accumulated other comprehensive income	381	243
Nil coupon perpetual loan notes	76	76
Total stockholders' equity	89,013	83,910
Total liabilities and stockholders' equity	\$ 112,990	\$ 103,203

See notes to consolidated financial statements.

## Table of Contents

### Fuel Tech, Inc.

### Consolidated Statements of Operations

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

	For the years ended December 31,		
	2011	2010	2009
<b>Revenues</b>	\$ 93,668	\$ 81,795	\$ 71,397
<b>Costs and expenses:</b>			
Cost of sales	49,857	46,821	42,444
Selling, general and administrative	33,446	30,857	32,273
Gain on revaluation of ACT liability	(758)	(768)	(781)
Research and development	1,474	948	542
	84,019	77,858	74,478
<b>Operating income (loss)</b>	9,649	3,937	(3,081)
Interest expense	(148)	(143)	(120)
Interest income	35	11	32
Other expense	(279)	(119)	(241)
<b>Income (loss) before taxes</b>	9,257	3,686	(3,410)
Income tax (expense) benefit	(3,109)	(1,933)	1,104
<b>Net income (loss)</b>	\$ 6,148	\$ 1,753	\$ (2,306)
<b>Net income (loss) per common share:</b>			
Basic	\$ 0.26	\$ 0.07	\$ (0.10)
Diluted	\$ 0.25	\$ 0.07	\$ (0.10)
<b>Weighted-average number of common shares outstanding:</b>			
Basic	24,095,000	24,213,000	24,148,000
Diluted	24,633,000	24,405,000	24,148,000
See notes to consolidated financial statements.			

**Table of Contents****Fuel Tech, Inc.****Consolidated Statements of Stockholders' Equity***(in thousands of dollars or shares, as appropriate)*

	Common Stock		Additional	Accumulated	Other	Nil Coupon Perpetual	
	Shares	Amount	Capital	Deficit	Comprehensive Income (Loss)	Loan Notes	Total
<b>Balance at December 31, 2008</b>	<b>24,111</b>	<b>\$ 241</b>	<b>\$ 118,588</b>	<b>\$ (45,522)</b>	<b>\$ 187</b>	<b>\$ 81</b>	<b>\$ 73,575</b>
Comprehensive loss:							
Net loss				(2,306)			(2,306)
Foreign currency translation adjustments					82		82
Comprehensive income							(2,224)
Exercise of stock options	101	1	605				606
Tax benefit from stock							
compensation expense			78				78
Stock compensation expense			6,097				6,097
Reclassification of liability award			90				90
<b>Balance at December 31, 2009</b>	<b>24,212</b>	<b>\$ 242</b>	<b>\$ 125,458</b>	<b>\$ (47,828)</b>	<b>\$ 269</b>	<b>\$ 81</b>	<b>\$ 78,222</b>
Comprehensive loss:							
Net income				1,753			1,753
Foreign currency translation adjustments					(26)		(26)
Comprehensive income							1,727
Exercise of stock options	1		10				10
Repurchase of nil coupon perpetual loan notes						(5)	(5)
Tax benefit from stock compensation expense							
Stock compensation expense			4,274				4,274
Tax effect of expired vested options			(318)				(318)
<b>Balance at December 31, 2010</b>	<b>24,213</b>	<b>\$ 242</b>	<b>\$ 129,424</b>	<b>\$ (46,075)</b>	<b>\$ 243</b>	<b>\$ 76</b>	<b>\$ 83,910</b>
Comprehensive income:							
Net income				6,148			6,148
Foreign currency translation adjustments					103		103
Unrealized gain on marketable securities, net of tax					35		35
Comprehensive income							6,286
Exercise of stock options	81	1	375				376
Tax benefit from stock compensation expense			77				77

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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 of common shares	(701)	(7)		(4,104)			(4,111)
<b>Balance at December 31, 2011</b>	<b>23,644</b>	<b>\$ 237</b>	<b>\$ 132,350</b>	<b>\$ (44,031)</b>	<b>\$ 381</b>	<b>\$ 76</b>	<b>\$ 89,013</b>

See notes to consolidated financial statements.



**Table of Contents****Fuel Tech, Inc.****Consolidated Statements of Cash Flows***(in thousands of dollars)*

	For the years ended December 31,		
	2011	2010	2009
<b>OPERATING ACTIVITIES</b>			
Net income (loss)	\$ 6,148	\$ 1,753	\$ (2,306)
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	2,808	3,195	3,796
Amortization	912	886	1,312
Loss on equipment disposals/impaired assets	56	20	94
Gain on revaluation of ACT liability	(758)	(768)	(781)
Unrealized holding gain on marketable security	(21)		
Allowance for doubtful accounts	348	12	(10)
Deferred income tax	793	(588)	(1,492)
Stock compensation expense	2,810	4,274	6,097
Changes in operating assets and liabilities:			
Accounts receivable	(13,279)	(3,377)	5,498
Inventories	504	(354)	563
Prepaid expenses, other current assets and other noncurrent assets	(723)	(27)	3,293
Accounts payable	2,914	1,765	(2,372)
Accrued liabilities and other noncurrent liabilities	2,346	5,379	(113)
Other		20	34
Net cash provided by operating activities	4,858	12,190	13,613
<b>INVESTING ACTIVITIES</b>			
Decrease (increase) in restricted cash		200	(200)
Purchases of property, equipment and patents	(2,408)	(2,206)	(2,004)
Proceeds from the sale of equipment	2		
Acquisitions of businesses			(20,185)
Net cash used in investing activities	(2,406)	(2,006)	(22,389)
<b>FINANCING ACTIVITIES</b>			
(Payments) / proceeds from debt	(1,162)	(737)	737
Proceeds from exercises of stock options	376	10	605
Excess tax benefit from exercises of stock options	77		78
Reclassification of liability award			90
Repurchases of common stock	(4,111)		
Other		(5)	
Net cash (used in) provided by financing activities	(4,820)	(732)	1,510
Effect of exchange rate fluctuations on cash	73	107	82
Net increase (decrease) in cash and cash equivalents	(2,295)	9,559	(7,184)
Cash and cash equivalents at beginning of year	30,524	20,965	28,149
Cash and cash equivalents at end of year	\$ 28,229	\$ 30,524	\$ 20,965

Supplemental Cash Flow Information:

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Non-cash activities:			
(Decrease) increase in contingent consideration payable	\$ (758)	\$ (768)	\$ 2,307
Cash paid for:			
Interest	\$ 148	\$ 143	\$ 120
Income taxes paid	\$ 5,187	\$ 297	\$ 195
See notes to consolidated financial statements.			

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## **Table of Contents**

### **Notes to Consolidated Financial Statements**

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

#### **1. ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES**

##### **Organization**

Fuel Tech is a company that provides advanced engineered solutions for the optimization of combustion systems in utility and industrial applications. Fuel Tech's primary focus is on the worldwide marketing and sale of its NOx reduction technologies as well as its 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 \$17,591, \$12,793, and \$16,002 for the years ended December 31, 2011, 2010 and 2009, respectively. These amounts represented 19%, 16%, and 22% 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. Fuel Tech has 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.

##### **Reclassifications**

Certain prior year amounts have been reclassified to conform to the current year presentation.

##### **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**

Fuel Tech includes cash and investments having an original maturity of three months or less at the time of acquisition in cash and cash equivalents. Fuel Tech has 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, 2011, the Company has cash on hand of approximately \$867 at its 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**

Fuel Tech's 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 immaterial nature of the transactions involved.

**Table of Contents****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, 2011 and 2010, unbilled receivables were approximately \$11,334 and \$6,800, respectively.

**Allowance for Doubtful Accounts**

The allowance for doubtful accounts is the Company'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
2009	\$ 80	\$ 41	\$ (51)	\$ 70
2010	\$ 70	\$ 50	\$ (38)	\$ 82
2011	\$ 82	\$ 510	\$ (162)	\$ 430

**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.

**Comprehensive Income**

Other comprehensive income is defined as the change in equity resulting from transactions from non-owner sources. Total comprehensive income differs from our net income due to the effects of foreign currency translation and unrealized gains from marketable securities that are available for sale.

	2011	December 31, 2010	2009
Net income	\$ 6,148	\$ 1,753	\$ (2,306)
Foreign currency translation adjustments	103	(26)	82
Unrealized gain from marketable securities, net of tax	35		
Comprehensive income	\$ 6,286	\$ 1,727	\$ (2,224)

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The components of accumulated other comprehensive income was as follows:

	December 31,	
	2011	2010
Foreign currency translation adjustments	\$ 346	\$ 243
Unrealized gain from marketable securities, net of tax	35	
Accumulated Other Comprehensive Income, net of tax	\$ 381	\$ 243

## **Table of Contents**

### **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**

Fuel Tech typically warrants its 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. Fuel Tech uses 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. Fuel Tech has two reporting units which are reported in the FUEL CHEM technology segment and the APC technology segment. At December 31, 2011 and 2010, 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.

Fuel Tech 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, 2011, 2010 and 2009, 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, 2011 and 2010, the net patent asset balance, excluding patents acquired in business acquisitions, was \$786 and \$512, respectively. The third-party costs capitalized as patent costs during the years ended December 31, 2011 and 2010 were \$307 and \$186, 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.

Fuel Tech's intellectual property has been the primary 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 \$912, \$886, and \$1,312 for the years ended December 31, 2011, 2010 and 2009, respectively. The table below shows the amortization period and other intangible asset cost by intangible asset as of December 31, 2011 and 2010, and the accumulated amortization and net intangible asset value in total for all other intangible assets.

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Description of Other Intangible	Amortization Period	2011			2010		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Customer list	3-15 years	\$ 4,567	\$ (1,779)	\$ 2,788	\$ 4,567	\$ (1,337)	\$ 3,230
Tradenames	8 years	351	(132)	219	351	(88)	263
Patent assets	12-18 years	1,802	(530)	1,272	2,228	(1,131)	1,097
Covenant not to compete	5-6 years	376	(237)	139	376	(162)	214
Acquired technologies	7-8 years	1,731	(707)	1,024	1,731	(485)	1,246
Total		\$ 8,827	\$ (3,385)	\$ 5,442	\$ 9,253	\$ (3,203)	\$ 6,050



**Table of Contents**

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

Year	Estimated Amortization Expense
2012	\$ 865
2013	801
2014	737
2015	704
2016	685
Thereafter	1,650
<b>Total</b>	<b>\$ 5,442</b>

**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 \$2,808, \$3,195, and \$3,796 for the years ended December 31, 2011, 2010, and 2009, respectively. The table below shows the depreciable life and cost by asset class as of December 31, 2011 and 2010, and the accumulated depreciation and net book value in total for all classes of assets.

Description of Property and Equipment	Depreciable Life	2011	2010
Land		\$ 1,440	\$ 1,440
Building	39 years	4,535	4,535
Building and leasehold improvements	3-39 years	4,448	4,425
Field equipment	3-4 years	16,429	14,630
Computer equipment and software	2-3 years	3,529	3,663
Furniture and fixtures	3-10 years	1,451	1,436
Vehicles	5 years	32	22
 Total cost		 31,864	 30,151
Less accumulated depreciation		(18,239)	(15,767)
 Total net book value		 \$ 13,625	 \$ 14,384

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 exists, 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 most likely result in the re-deployment of all or most of the effected assets to another customer location rather than impairment.

**Revenue Recognition**

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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.

Fuel Tech uses 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, 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

## **Table of Contents**

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.

### **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**

Fuel Tech classifies shipping and handling costs in cost of sales in the consolidated statement 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 Fuel Tech's 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 the Company's 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**

Fuel Tech has a stock-based employee compensation plan, referred to as the Fuel Tech, Inc. Incentive Plan (Incentive Plan), under which 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, Performance Awards, Bonuses or other forms of share-based or non-share-based awards or combinations thereof. Participants in the Incentive Plan may be Fuel Tech's directors, officers, employees, consultants or advisors (except consultants or advisors in

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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, 2011, Fuel Tech had 865,000 stock awards available for issuance under the Incentive Plan.

**Table of Contents****Basic and Diluted Earnings (Loss) per Common Share**

Basic earnings (loss) 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 5). Diluted earnings (loss) per share includes the dilutive effect of the nil coupon non-redeemable convertible unsecured loan notes, RSUs, and of 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 (loss) per share because they are anti-dilutive. At December 31, 2011, 2010, and 2009, Fuel Tech had outstanding stock options of 1,368,000, 2,379,000, and 2,206,000, respectively, that were not dilutive for the purpose of inclusion in the diluted earnings per share calculation. These stock options could potentially dilute basic EPS in future years.

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

	2011	2010	2009
Basic weighted-average shares	24,095,000	24,213,000	24,148,000
Conversion of unsecured loan notes	7,000	7,000	
Unexercised options	188,000	185,000	
Unvested restricted stock units	343,000		
Diluted weighted-average shares	24,633,000	24,405,000	24,148,000

**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, 2011, Fuel Tech 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. The Company had no customers that accounted for greater than 10% of our net accounts receivable balance as of December 31, 2011.

For the year ended December 31, 2010, Fuel Tech had three customers which individually represented greater than 10% of revenues. Two of these customers contributed to our FUEL CHEM technology segment and represented 16% and 13% of consolidated revenues, respectively, and one customer contributed to our APC technology segment and represented 14% of consolidated revenues. The Company had a separate customer relating to our APC technology segment that accounted for 13% of net accounts receivable as of December 31, 2010.

For the year ended December 31, 2009, Fuel Tech had one customer which individually represented greater than 10% of revenues. In total this customer represented 17% of revenues, and represented revenue recognized solely from the FUEL CHEM technology segment. The Company had a separate customer that accounted for 17% of net accounts receivable as of December 31, 2009 relating to our APC technology segment.

The Company controls 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 \$57 at December 31, 2011.

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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

**Table of Contents**

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, 2011, 2010, and 2009.

**Recently Issued and Adopted Accounting Standards**

In June 2011, the Financial Accounting Standards Board (FASB) issued amended disclosure requirements for the presentation of comprehensive income. The amended guidance eliminates the option to present components of other comprehensive income (OCI) as part of the statement of changes in equity. Under the amended guidance, all changes in OCI are to be presented either in a single continuous statement of comprehensive income or in two separate but consecutive financial statements. The changes are effective January 1, 2012 with earlier adoption permitted. In addition, in December 2011, the FASB issued an amendment to this accounting standard which defers the requirement to present components of reclassifications of other comprehensive income on the face of the income statement. We adopted the provisions of this amendment on January 1, 2012, which will only affect our financial statement presentation and will have no impact to our consolidated financial results.

In May 2011, the FASB issued guidance titled *Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and International Financial Reporting Standard (IFRS)*, to converge fair value measurement and disclosure guidance in U.S. GAAP with the guidance in the International Accounting Standards Board's concurrently issued IFRS 13, Fair Value Measurement. This accounting guidance does not modify the requirements for when fair value measurements apply; rather, it generally provides clarifications on how to measure and disclose fair value under the Accounting Standards Codification 820, Fair Value Measurement. The amendments in this accounting guidance are effective prospectively for interim and annual periods beginning after December 15, 2011. Early adoption is not permitted for public entities. We adopted the provisions of this amendment on January 1, 2012 and it is not expected to have a material impact on our financial statements.

In September 2011, the FASB issued new authoritative guidance titled *Testing Goodwill for Impairment*. The guidance provides the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the results of the qualitative analysis indicate it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, the quantitative two-step impairment test, which was required under previous U.S. GAAP, would not be necessary. The guidance is effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011 and early adoption is permitted. We early adopted this guidance in the period ended September 30, 2011 and it did not have an impact on our consolidated financial position or results of operations.

**2. CONSTRUCTION CONTRACTS IN PROGRESS**

The status of contracts in progress as of December 31, 2011 and 2010 is as follows:

	2011	2010
Costs incurred on uncompleted contracts	\$ 17,673	\$ 19,928
Estimated earnings	13,476	10,305
Earned revenue	31,149	30,233
Less billings to date	(27,782)	(24,083)
<b>Total</b>	<b>\$ 3,367</b>	<b>\$ 6,150</b>
Classified as follows:		
Costs and estimated earnings in excess of billings on uncompleted contracts	\$ 7,262	\$ 6,800
Billings in excess of costs and estimated earnings on uncompleted contracts	(3,895)	(650)
<b>Total</b>	<b>\$ 3,367</b>	<b>\$ 6,150</b>

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. All billed and unbilled amounts outstanding as of December 31, 2011 are expected to be collected within the next 12

months.

As of December 31, 2011 Fuel Tech had one construction contract in progress that was identified as a loss contract in the amount of \$201. As of December 31, 2010, Fuel Tech had no construction contracts in progress that were identified as loss contracts.



**Table of Contents****3. TAXATION**

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

	2011	2010	2009
Origin of income (loss) before taxes			
United States	\$ 8,244	\$ 4,144	\$ (3,378)
Foreign	1,013	(458)	(32)
<b>Income (loss) before taxes</b>	<b>\$ 9,257</b>	<b>\$ 3,686</b>	<b>\$ (3,410)</b>

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

	2011	2010	2009
<b>Current:</b>			
Federal	\$ 1,456	\$ 2,520	\$ 195
State	402	414	28
Foreign	482	103	
<b>Total current</b>	<b>2,340</b>	<b>3,037</b>	<b>223</b>
<b>Deferred:</b>			
Federal	674	(1,051)	(1,219)
State	95	(97)	(108)
Foreign		44	
<b>Total deferred</b>	<b>769</b>	<b>(1,104)</b>	<b>(1,327)</b>
<b>Income tax expense (benefit)</b>	<b>\$ 3,109</b>	<b>\$ 1,933</b>	<b>\$ (1,104)</b>

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

	2011	2010	2009
Provision at the U.S. federal statutory rate	34.0%	35.0%	(35.0)%
State taxes, net of federal benefit	3.2%	3.9%	(2.2)%
Foreign tax rate differential	(1.2%)	0.6%	0.3%
Valuation allowance	2.7%	6.5%	0.0%
Research credits	(6.5%)	0.0%	(1.8)%
Stock-based compensation	0.0%	4.4%	4.1%
Other	1.4%	2.0%	2.2%
<b>Income tax expense (benefit) effective rate</b>	<b>33.6%</b>	<b>52.4%</b>	<b>(32.4)%</b>

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

	2011	2010
<b>Deferred tax assets:</b>		
Stock compensation expense	\$ 7,734	\$ 7,442
Alternative minimum tax credit	71	
Warranty reserve	118	82
Accounts receivable	161	31

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Vacation accrual	118	80
Commissions and other accruals		177
Deferred rent liability	47	52
Intangible assets	603	403
Net operating loss carryforwards	1,327	1,102
 Total deferred tax assets	 10,179	 9,369
Deferred tax liabilities:		
Equipment	(1,513)	(1,243)
Prepaid expenses	(285)	(110)
Patents	(384)	(195)
Goodwill	(2,689)	(1,630)
Other	(20)	
 Total deferred tax liabilities	 (4,891)	 (3,178)
 Net deferred tax asset before valuation allowance	 5,288	 6,191
Valuation allowances for deferred tax assets	(1,327)	(1,102)
 Net deferred tax asset	 \$ 3,961	 \$ 5,089

**Table of Contents**

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

Current assets	\$ 163	\$ 89
Long-term assets	3,798	5,000
Net deferred tax asset	\$ 3,961	\$ 5,089

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
2009	\$ 1,421		(244)	\$ 1,177
2010	\$ 1,177		(75)	\$ 1,102
2011	\$ 1,102		225	\$ 1,327

For the years ended December 31, 2011 and 2010, Fuel Tech recorded tax benefits from the exercise of stock options in the amount of \$77 and \$0, respectively. The amounts were recorded as an increase in additional paid-in capital on the consolidated balance sheets and as cash from financing activities on the consolidated statements of cash flows. Fuel Tech also reduced the deferred tax asset related to stock based compensation by \$335 and \$318 for fully vested options that expired unexercised during 2011 and 2010, respectively. This reduction in the deferred tax asset was recorded against additional paid-in capital and had no impact on our results from operations.

As required by ASC 740, Fuel Tech recognizes 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 Fuel Tech's unrecognized tax benefit activity (excluding interest and penalties) during the years ended December 31, 2011, 2010, and 2009:

Description	2011	2010	2009
Balance at beginning of period	\$ 664	\$ 724	\$ 713
Increases in positions taken in a prior period			11
Decreases in positions taken in a prior period			
Increases in positions taken in a current period	117	60	
Decreases in positions taken in a current period			
Decreases due to settlements			
Decreases due to lapse of statute of limitations	(276)	(120)	
Balance at end of period	\$ 505	\$ 664	\$ 724

The amount of interest and penalties that we recognized in income tax expense during the years ended December 31, 2011, 2010, and 2009 was \$162, \$206, and \$146, respectively. The total amount of unrecognized tax benefits as of December 31, 2011, 2010, and 2009, including interest and penalties, was \$667, \$870 and \$870, respectively, all of which if ultimately recognized will reduce Fuel Tech's annual effective tax rate. We estimate that \$398 of this unrecognized tax benefit will be recognized into income in 2012 due to the lapsing of statute of limitations.

Fuel Tech recognizes interest and penalties related to unrecognized tax benefits in income tax expense for all periods presented. At December 31, 2011, 2010, and 2009, Fuel Tech had accrued approximately \$162, \$206, and \$146, respectively, for the payment of interest and penalties.

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Fuel Tech is 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 2008. The Company is currently undergoing examination in the U.S. for the 2009 and 2010 tax years with anticipated completion occurring in 2012.

The management of Fuel Tech periodically estimates the probable tax obligations of the Company 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.

At December 31, 2011, Fuel Tech has tax loss carry-forwards of approximately \$4,825 available to offset future foreign income in Italy. We have recorded a full valuation allowance against the resulting \$1,327 deferred tax asset because we cannot anticipate

**Table of Contents**

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 2012 if not used by that date.

**4. COMMON SHARES**

At December 31, 2011, Fuel Tech had 23,644,301 common shares issued and outstanding, with an additional 6,715 shares reserved for issuance upon conversion of the nil coupon non-redeemable convertible unsecured loan notes (see Note 5) and 2,309,165 shares reserved for issuance upon the exercise or vesting of equity awards, of which 1,718,062 are stock options that are currently exercisable (see Note 6).

At December 31, 2010, Fuel Tech had 24,213,467 common shares issued and outstanding, with an additional 6,715 shares reserved for issuance upon conversion of the nil coupon non-redeemable convertible unsecured loan notes and 3,005,125 shares reserved for issuance upon the exercise or vesting of equity awards, of which 2,277,625 are stock options that are currently exercisable.

**5. NIL COUPON NON-REDEEMABLE CONVERTIBLE UNSECURED LOAN NOTES**

At December 31, 2011 and 2010, respectively, Fuel Tech 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, 2011, the nil coupon loan notes were convertible into 6,715 common shares. Based on our closing stock price of \$6.58 at December 31, 2011, the aggregate fair value of the common shares that the holders would receive if all loan notes were converted would be approximately \$44, 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 Fuel Tech's 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 2011, 2010, and 2009, Loan Notes in the principal amounts of \$0, \$5, and \$0, respectively, were repurchased by the Company.

**6. STOCK-BASED COMPENSATION**

Fuel Tech has a stock-based employee compensation plan, referred to as the Fuel Tech, Inc. Incentive Plan (Incentive Plan), under which 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 Fuel Tech's directors, officers, employees, consultants or advisors (except consultants or advisors in capital-raising transactions) as the directors determine are key to the success of Fuel Tech's 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, 2011, Fuel Tech had approximately 865,000 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. The components of stock-based compensation for the years ended December 31, 2011, 2010, and 2009 were as follows:

	For the Year Ended December 31,		
	2011	2010	2009
Stock options	\$ 2,077	\$ 4,170	\$ 6,011
Restricted stock units	672	9	
Deferred directors fees	61	95	86
Total stock-based compensation expense	2,810	4,274	6,097
Tax benefit of stock-based compensation expense	(959)	(1,412)	(2,083)

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After-tax effect of stock based compensation

\$ 1,851

\$ 2,862

\$ 4,014

As of December 31, 2011, there was \$2,787 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 requisite service period of two years.

**Table of Contents****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 will be 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 of additional stock-based compensation during the year ended December 31, 2011 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, 2011, 2010, and 2009, respectively, were \$4.08, \$3.38, and \$5.83 per share using the following weighted average assumptions:

	2011	2010	2009
Expected dividend yield	0.00%	0.00%	0.00%
Risk-free interest rate	1.80%	1.74%	2.46%
Expected volatility	57.2%	67.7%	68.0%
Expected life of option	5.0 years	5.5 years	5.1 years

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

	2011		2010		2009	
	Number of Options	Weighted-Average Exercise Price	Number of Options	Weighted-Average Exercise Price	Number of Options	Weighted-Average Exercise Price
Outstanding at beginning of year	2,856,125	\$ 14.68	3,051,125	\$ 15.28	2,905,325	\$ 16.30
Granted	60,000	8.16	110,000	5.71	510,000	9.96
Exchanged for RSUs	(814,500)	22.06				
Exercised	(81,500)	4.61	(1,500)	6.35	(101,000)	5.84
Expired or forfeited	(118,125)	18.48	(303,500)	17.51	(263,200)	18.82
Outstanding at end of year	1,902,000	\$ 11.51	2,856,125	\$ 14.68	3,051,125	\$ 15.28

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Exercisable at end of year	1,718,062	\$ 11.72	2,277,625	\$ 14.98	1,784,000	\$ 14.28
Weighted-average fair value of options granted during the year		\$ 4.08		\$ 3.38		\$ 5.83



**Table of Contents**

The following table provides additional information regarding Fuel Tech's stock option activity for the 12 months ended December 31, 2011:

	Number of Options	Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding on January 1, 2011	2,856,125	\$ 14.68		
Granted	60,000	8.16		
Exchanged for RSUs	(814,500)	22.06		
Exercised	(81,500)	4.61		
Expired or forfeited	(118,125)	18.48		
Outstanding on December 31, 2011	1,902,000	11.51	4.9 years	\$ 926
Exercisable on December 31, 2011	1,718,062	\$ 11.72	4.6 years	\$ 906

The following table summarizes information about stock options outstanding at December 31, 2011:

Range of Exercise Prices	Options Outstanding		Options Exercisable		
	Number of Options	Weighted- Average Remaining Contractual Life	Weighted- Average Exercise Price	Number of Options	Weighted- Average Exercise Price
\$ 2.76 - \$ 5.51	409,000	3.5 years	\$ 4.50	409,000	\$ 4.50
\$ 5.52 - \$ 11.03	883,875	5.7 years	8.71	710,187	8.59
\$ 11.04 - \$ 22.06	272,250	4.2 years	14.63	262,000	14.55
\$ 22.07 - \$ 27.57	336,875	5.1 years	24.86	336,875	24.86
\$ 2.76 - \$ 27.57	1,902,000	4.9 years	\$ 11.51	1,718,062	\$ 11.72

Non-vested stock option activity for the 12 months ended December 31, 2011 was as follows:

	Non-Vested Stock Options Outstanding	Weighted-Average Grant Date Fair Value
Outstanding on January 1, 2011	578,500	\$ 7.50
Granted	60,000	4.08
Vested	(328,187)	7.31
Exchanged for RSUs	(91,500)	10.07
Forfeited	(34,875)	8.19
Outstanding on December 31, 2011	183,938	\$ 5.56

As of December 31, 2011, there was \$1,131 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 1.2 years. Fuel Tech received proceeds from the exercise of stock options of \$376, \$10, and \$605 in the years ended December 31, 2011, 2010, and 2009, respectively. The intrinsic value of options exercised in the years ended December 31, 2011, 2010, and 2009 was \$256, \$2, and \$394, 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.



## Table of Contents

### 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 Company's common stock 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, in March 2011, the Company entered into a performance-based RSU agreement (the Agreement) with each of the Company's President/Chief Executive Officer, Treasurer/Chief Financial Officer, Executive Vice President, Marketing & Sales and Executive Vice President, Worldwide Operations. The Agreement provides 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 the Company's relative performance compared to a peer group, as determined by the award type. The Compensation and Nominating 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 2011 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 intrinsic value method 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 the Company's revenue growth relative to a specified peer group during the 2011 and 2012 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 intrinsic value method 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 the Company's common stock relative to a specified peer group during the 2011 and 2012 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 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 a peer group of companies.

The Company recorded expense of approximately \$672 and \$9 associated with its restricted stock unit awards in 2011 and 2010, respectively, and at December 31, 2011 there is \$1,656 of unrecognized compensation costs related to restricted stock unit awards to be recognized over a weighted average period of 2.8 years.

A summary of restricted stock unit activity for the year ended December 31, 2011 and 2010 is as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested restricted stock units at January 1, 2010		\$ 0.00
Granted	149,000	8.63

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Unvested restricted stock units at December 31, 2010	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 stock units at December 31, 2011	487,165	\$	7.59

**Table of Contents****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 2011, 2010, and 2009, Fuel Tech recorded \$ 61, \$95, and \$86, respectively, of stock-based compensation expense under the Deferred Plan.

**7. COMMITMENTS AND CONTINGENCIES****Operating Leases**

Fuel Tech leases 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, 2011 are as follows:

<b>Year of Payment</b>	<b>Amount</b>
2012	\$ 565
2013	499
2014	333
2015	290
2016	290
Thereafter	870
<b>Total</b>	<b>\$ 2,847</b>

For the years ended December 31, 2011, 2010 and 2009, rent expense approximated \$879, \$897, and \$1,025, respectively.

Fuel Tech has a sublease agreement with American Bailey Corporation (ABC) that obligates the sub-lessee to make future payments to the Company. ABC will reimburse Fuel Tech for its share of lease and lease-related expenses under Fuel Tech's February 1, 2010 lease of its executive offices in Stamford, Connecticut. Please refer to Note 9 to the consolidated financial statements for a discussion of the relationship between Fuel Tech and ABC. The future minimum lease income under this non-cancellable sublease as of December 31, 2011 is as follows:

<b>Year of Payment</b>	<b>Amount</b>
2012	\$ 124
2013	124
2014	124
2015	133
2016	133
Thereafter	399
<b>Total</b>	<b>\$ 1,037</b>

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.

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The Beijing, China building lease term, for approximately 5,800 square feet, runs from September 1, 2011 to August 31, 2012. This facility serves as the operating headquarters for our Beijing Fuel Tech operation. Fuel Tech has 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. Fuel Tech has no option to extend the lease.

The Gallarate, Italy building lease term, for approximately 1,300 square feet, runs from July 1, 2005 to April 30, 2013. This facility serves as the operating headquarters for our Italy operations.

## **Table of Contents**

### **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, 2011, Fuel Tech had outstanding performance surety bonds in the amount of \$2,742 and bank performance guarantees and letters of credit in the amount of \$2,124 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 2012 through January 2015. The expiration dates may be extended if the project completion dates are extended. Fuel Tech's management believes it is probable that these projects will be successfully completed and that there will not be a materially adverse impact on Fuel Tech's operations from these bank performance guarantees and letters of credit. As a result, no liability has been recorded for these performance guarantees.

### **Product Warranties**

Fuel Tech issues a standard product warranty with the sale of its 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 2011, 2010 and 2009 are summarized below:

	2011	2010	2009
Aggregate product warranty liability at beginning of year	\$ 215	\$ 199	\$ 265
Net aggregate expense related to product warranties	650	170	60
Aggregate reductions for payments	(552)	(154)	(126)
Aggregate product warranty liability at end of year	\$ 313	\$ 215	\$ 199

### **Contingent Consideration from Business Acquisition**

In 2009, the Company recorded a contingent consideration accrual representing the fair value of the potential future consideration to be paid in connection with its acquisition of substantially all of the assets of Advanced Combustion Technology, Inc. (ACT). The contingent consideration earnout arrangement required the Company 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 the Company 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 the Company could be required to make is 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.

The Company periodically evaluates the probability that payment of the contingent consideration accrual is probable based on a range of outcomes and assumptions used to develop the fair value estimate. Based upon this analysis, management concluded during each of the years ended December 31, 2011, 2010, and 2009 that the payout was not probable of being made. Thus, the Company recorded a gain of \$758 from the revaluation of the contingent liability in 2011. A similar adjustment was made in the two preceding years for \$768 and \$781, respectively. There is no contingent liability accrual remaining as of December 31, 2011.

**8. DEBT FINANCING**

On June 30, 2011, Fuel Tech amended its existing revolving credit facility (the Facility) with JPMorgan Chase Bank, N.A (JPM Chase) to extend the maturity date through June 30, 2013. The amendment decreases the total borrowing base of the facility to \$15,000 from \$25,000 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 under a formula related to the Company's leverage ratio, and has the Company's Italian subsidiary, Fuel Tech S.r.l., as a guarantor. Fuel Tech can use this Facility for cash advances and standby letters of credit. As of December 31, 2011 and 2010, there were no outstanding borrowings on the amended or previous credit facilities.



## **Table of Contents**

The Facility contains several debt covenants with which the Company 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 1.5:1.0 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 \$50,000, adjusted upward for 50% of net income generated and 100% of all capital issuances. At December 31, 2011, the Company was in compliance with all financial covenants specified by the Facility.

At December 31, 2011 and 2010, the Company had outstanding standby letters of credit and bank guarantees totaling approximately \$1,374 and \$1,265, respectively, on its domestic credit facility in connection with contracts in process. Fuel Tech is committed to reimbursing the issuing bank for any payments made by the bank under these instruments. At December 31, 2011 and 2010, there were no cash borrowings under the domestic revolving credit facility and approximately \$13,626 and \$23,735, respectively, was available for future borrowings. The Company pays a commitment fee of 0.25% per year on the unused portion of the revolving credit facility.

On June 30, 2011, Beijing Fuel Tech Environmental Technologies Company, Ltd. (Beijing Fuel Tech), a wholly-owned subsidiary of Fuel Tech, entered into a new revolving credit facility (the China Facility) agreement with JPM Chase for RMB 35 million (approximately \$5,511), which expires on June 29, 2012. This new credit facility replaced the previous RMB 45 million facility that expired on June 30, 2011. The facility is unsecured, bears interest at a rate of 125% of the People's Bank of China (PBOC) Base Rate, and is guaranteed by Fuel Tech. Beijing Fuel Tech can use this facility for cash advances and bank guarantees. As of December 31, 2011 and 2010, Beijing Fuel Tech had borrowings outstanding in the amount of \$1,181 and \$2,269, respectively. These borrowings were subject to interest rates of approximately 7.6% and 5.8% at December 31, 2011 and December 31, 2010, respectively.

At December 31, 2011 and 2010, the Company had outstanding standby letters of credit and bank guarantees totaling approximately \$750 and \$348, respectively, on its Beijing Fuel Tech revolving credit facility in connection with contracts in process. At December 31, 2011 and 2010, approximately \$3,580 and \$3,983 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 the Company 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 the Company's cash position to deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require the Company to obtain alternate financing to satisfy the accelerated payment.

Interest payments in the amount of \$148 and \$143 were made during the years ended December 31, 2011 and 2010, respectively.

## **9. RELATED PARTY TRANSACTIONS**

Persons now or formerly associated with American Bailey Corporation (ABC) currently own approximately 25% of Fuel Tech's Common Shares. On January 1, 2004, Fuel Tech entered into an agreement whereby ABC reimburses Fuel Tech for services that certain employees of Fuel Tech provide to ABC. In addition, ABC is a sub-lessee under Fuel Tech's February 1, 2010 lease of its offices in Stamford, Connecticut, which runs through December 31, 2019. ABC reimburses Fuel Tech for its share of lease and lease-related expenses under the sublease agreement. The Stamford facility houses certain administrative functions including Investor Relations. The amount due from ABC related to both compensation and the sublease agreement was \$27, \$217, and \$24 at December 31, 2011, 2010, and 2009, respectively.

## **10. DEFINED CONTRIBUTION PLAN**

Fuel Tech has a retirement savings plan available for all U.S. employees who have met minimum length-of-service requirements. Our contributions are determined based upon amounts contributed by Fuel Tech's employees with additional contributions made at the discretion of Fuel Tech's Board of Directors. Costs related to this plan were \$757, \$536, and \$377 in 2011, 2010, and 2009, respectively.

## **11. BUSINESS SEGMENT, GEOGRAPHIC AND QUARTERLY FINANCIAL DATA**

### **Business Segment Financial Data**

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Fuel Tech segregates its financial results into two reportable segments representing two broad technology segments as follows:

The Air Pollution Control technology segment includes technologies to reduce NOx emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low and Ultra Low NOx Burners (LNB and ULNB), Over-Fire Air (OFA) systems, NOxOUT® 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 NOx reductions at significantly lower capital and operating costs than conventional SCR systems. The NOxOUT CASCADE® and NOxOUT-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.

## Table of Contents

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 by Fuel Tech to each reportable segment. Further, there are no intersegment sales that require elimination.

Fuel Tech evaluates performance and allocates resources based on reviewing 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. Fuel Tech does not review assets by reportable segment, but rather, in aggregate for Fuel Tech as a whole.

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

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 (loss)	\$ 22,463	\$ 21,348	\$ (34,162)	\$ 9,649

For the year ended

December 31, 2010	Air Pollution Control Segment	FUEL CHEM Segment	Other	Total
Revenues from external customers	\$ 40,917	\$ 40,878	\$	\$ 81,795
Cost of sales	(27,024)	(19,797)		(46,821)
Gross margin	13,893	21,081		34,974
Selling, general and administrative			(30,857)	(30,857)
Gain from revaluation of ACT liability			768	768
Research and development			(948)	(948)
Operating income (loss)	\$ 13,893	\$ 21,081	\$ (31,037)	\$ 3,937

For the year ended

December 31, 2009	Air Pollution Control Segment	FUEL CHEM Segment	Other	Total
Revenues from external customers	\$ 34,721	\$ 36,676	\$	\$ 71,397
Cost of sales	(21,518)	(20,926)		(42,444)
Gross margin	13,203	15,750		28,953
Selling, general and administrative			(32,273)	(32,273)
Gain from revaluation of ACT liability			781	781
Research and development			(542)	(542)
Operating income (loss)	\$ 13,203	\$ 15,750	\$ (32,034)	\$ (3,081)



**Table of Contents****Geographic Segment Financial Data**

Information concerning Fuel Tech's 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,	2011	2010	2009
<b>Revenues:</b>			
United States	\$ 76,077	\$ 69,002	\$ 55,395
Foreign	17,591	12,793	16,002
	\$ 93,668	\$ 81,795	\$ 71,397
 As of December 31,	 2011	 2010	 2009
<b>Assets:</b>			
United States	\$ 99,601	\$ 92,485	\$ 82,261
Foreign	13,389	10,718	10,001
	\$ 112,990	\$ 103,203	\$ 92,262

**Quarterly Financial Data**

Set forth below are the unaudited quarterly financial data for the fiscal years ended December 31, 2011 and 2010.

For the quarters ended	March 31	June 30	September 30	December 31
<b>2011</b>				
Revenues	\$ 22,622	\$ 19,021	\$ 24,023	\$ 28,002
Cost of sales	11,466	10,553	13,050	14,788
Net income	1,339	430	2,655	1,724
Net income per common share:				
Basic	\$ 0.06	\$ 0.02	\$ 0.11	\$ 0.07
Diluted	\$ 0.05	\$ 0.02	\$ 0.11	\$ 0.07
<b>2010</b>				
Revenues	\$ 17,617	\$ 18,902	\$ 20,279	\$ 24,997
Cost of sales	9,500	11,067	11,496	14,758
Net income (loss)	214	(309)	817	1,031
Net income (loss) per common share:				
Basic	\$ 0.01	\$ (0.01)	\$ 0.03	\$ 0.04
Diluted	\$ 0.01	\$ (0.01)	\$ 0.03	\$ 0.04

**12. FAIR VALUE**

The Company applies 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:

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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

**Table of Contents**

The fair value of our marketable securities was \$57 and \$0 at December 31, 2011 and 2010, 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, 2011 and 2010.

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.

**13. SHARE REPURCHASE PROGRAM**

In August 2011, Fuel Tech's Board of Directors authorized the repurchase of up to \$6 million dollars of its outstanding common shares through December 31, 2012. The share repurchase program will be funded through the Company's existing cash on hand. Purchases made pursuant to the program will be made in either the open market or in privately negotiated transactions from time to time as permitted by federal securities laws and other legal requirements. The timing, manner, price and amount of any repurchases will be determined by the Company in its discretion and will be subject to economic and market conditions, stock price, applicable legal requirements, and other factors. The program may be suspended or discontinued at any time.

For the year ended December 31, 2011, Fuel Tech repurchased an aggregate of 701,714 common shares for a total cost of approximately \$4,111, including commissions of approximately \$28. These acquired shares have been retired and are no longer shown as issued or outstanding shares. As of December 31, 2011, the Company is authorized to repurchase additional shares with a cost up to approximately \$1,889 under its share repurchase program. The following table summarizes our share repurchase program since its inception:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Maximum Dollar Value of Shares That May Yet Be Purchased Under the Program
August 25, 2011 through September 30, 2011	571,554	\$ 5.89	\$ 2,633
October 1, 2011 through December 31, 2011	130,160	5.71	1,889
<b>Total</b>	<b>701,714</b>	<b>\$ 5.86</b>	<b>\$ 1,889</b>

## **Table of Contents**

### **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 Securities Exchange Act of 1934 is (i) recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange 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**

Fuel Tech's 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, Fuel Tech's management carried out an evaluation, with the participation of Fuel Tech's 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").

Fuel Tech's 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 Fuel Tech maintained effective internal control over financial reporting as of December 31, 2011, based on criteria in "Internal Control - Integrated Framework" issued by the COSO.

McGladrey & Pullen, 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



**Table of Contents****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 Fuel Tech's definitive Proxy Statement related to the 2012 Annual Meeting of Stockholders (the Proxy Statement) and is incorporated by reference.

Fuel Tech has 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 Fuel Tech's Investor Relations at the address or telephone number set out in Fuel Tech's Annual Report to Stockholders. The Code is also available on Fuel Tech's website at [www.ftek.com](http://www.ftek.com).

The identities of the Fuel Tech directors and other information concerning the directors and executive officers of Fuel Tech 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 Fuel Tech's Proxy Statement related to its 2012 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 the 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, 2011, under which the securities of Fuel Tech 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 plans excluding securities listed in column (a)	
	(a)		(b)		(c)	
Equity compensation plans approved by security holders (1)	2,389,165		\$ 11.51		865,018	

(1) Includes Common Shares of Fuel Tech authorized for awards under Fuel Tech's Incentive Plan, as amended on June 3, 2004. In addition to the above, Fuel Tech has a Deferred Compensation Plan for directors under which 100,000 Common Shares of Fuel Tech stock have been reserved for issuance as a form of deferred compensation with respect to directors fees elected to be deferred. At December 31, 2011, 26,926 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. During the year ended December 31, 2011, there were 51,048 Common Shares issued as a result of the Deferred Compensation Plan.

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**

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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 the 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 the definitive Proxy Statement and is incorporated by reference.

**Table of Contents****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

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2011 and 2010

Consolidated Statements of Operations for Years Ended December 31, 2011, 2010 and 2009

Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2011, 2010 and 2009

Consolidated Statements of Cash Flows for the Years Ended December 31, 2011, 2010 and 2009

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	10/05/06
3.2	Certificate of Conversion of Fuel Tech, Inc.		8-K		3.1	10/05/06
3.3	By-Laws of Fuel Tech, Inc.		8-K		3.3	10/05/06
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	09/30/09	4.1	11/04/09
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	09/30/09	4.2	11/04/09
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	09/30/09	4.3	11/04/09
4.4*	Fuel Tech, Inc. Incentive Plan as amended through June 3, 2004		S-8		4.1	10/02/06
4.5*	Fuel Tech, Inc. Form of Non-Executive Director Stock Option Agreement		10-K	12/31/06	4.6	03/06/07

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4.6*	Fuel Tech, Inc. Form of Non-Qualified Stock Option Agreement	10-K	12/31/06	4.7	03/06/07
4.7*	Fuel Tech, Inc. Form of Incentive Stock Option Agreement	10-K	12/31/06	4.8	03/06/07
4.8*	Fuel Tech, Inc. Form of Restricted Stock Unit Agreement	10-K	12/31/10	4.8	03/09/11
4.9*	Fuel Tech, Inc. Form of Revised Restricted Stock Unit Agreement	X			

## Table of Contents

4.10*	Fuel Tech, Inc. Form of 2011 Executive Performance RSU Award Agreement	8-K		10.1	03/28/11
10.1**	License Agreement dated November 18, 1998 between The Gas Technology Institute and Fuel Tech, Inc. relating to the FLGR Process.	10-K	12/31/99	3.28	03/30/00
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	12/31/99	3.29	03/30/00
10.3	Form of Indemnity Agreement between Fuel Tech, Inc. and its Directors and Officers.	8-K		99.1	02/07/07
10.4**	Restated Supply Agreement, dated March 4, 2009, between Fuel Tech, Inc. and Martin Marietta Magnesia Specialties, LLC.	10-K	12/31/08	10.7	03/05/09
10.5	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	12/31/08	10.8	03/05/09
10.6*	Employment Agreement, dated February 1, 1998, between Stephen P. Brady and Fuel Tech, Inc.	10-Q	09/30/09	10.2	11/04/09
10.7*	Employment Agreement, dated 10/31/1998, between William E. Cummings, Jr. and Fuel Tech, Inc.	10-K	12/31/09	10.10	03/04/10
10.8	Credit Agreement, dated as of June 30, 2009, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	09/30/09	10.5	11/04/09
10.9	First Amendment to Credit Agreement, dated as of October 5, 2009, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	09/30/09	10.6	11/04/09
10.10	Second Amendment to Credit Agreement, dated as of November 4, 2009, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	09/30/09	10.7	11/04/09
10.11	Third Amendment to Credit Agreement, dated as of June 30, 2011, between JPMorgan Chase Bank, N.A. and Fuel Tech, Inc.	10-Q	06/30/11	4.1	08/08/11
10.12	Sublease Agreement, dated December 9, 2009, between Fuel Tech, Inc. and American Bailey Corporation	10-K	12/31/09	10.14	03/04/10
10.13*	2011 Executive Officer Incentive Plan of Fuel Tech, Inc.	10-K	12/31/10	10.15	03/09/11
10.14*	Fuel Tech, Inc. 2011 FUEL CHEM® Officer Commission Plan	10-K	12/31/10	10.16	03/09/11
10.15*	Fuel Tech, Inc. 2012 FUEL CHEM® Officer Commission Plan	X			
10.16*	Fuel Tech, Inc. 2011 APC Officer and GSM Commission Plan	10-K	12/31/10	10.17	03/09/11
10.17*	Fuel Tech, Inc. 2012 APC Officer and GSM Commission Plan	X			
10.18*	Employment Agreement, dated August 2, 2010, between David S. Collins and Fuel Tech, Inc.	10-Q	06/30/10	10.1	08/09/10

**Table of Contents**

10.19*	Employment Agreement, dated April 1, 2010, between Douglas G. Bailey and Fuel Tech, Inc.	10-K	12/31/10	10.19	03/09/11
10.20*	Employment Agreement, dated August 31, 2009, between Robert E. Puissant and Fuel Tech, Inc.	10-K	12/31/10	10.20	03/09/11
10.21*	Employment Agreement, dated September 20, 2010 between Vincent J. Arnone and Fuel Tech, Inc.	X			
23.1	Consent of Independent Registered Public Accounting Firm.	X			
23.2	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			
32.0	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X			
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.

**Table of Contents**

**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 5, 2012

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

Date: March 5, 2012

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

## **Table of Contents**

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 5, 2012

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/ Charles W. Grinnell Charles W. Grinnell	Director
/s/ Thomas L. Jones Thomas L. Jones	Director
/s/ George F. MacCormack George F. MacCormack	Director
John D. Morrow	Director
/s/ Thomas S. Shaw, Jr. Thomas S. Shaw, Jr.	Director
/s/ Delbert L. Williamson Delbert L. Williamson	Director
/s/ David S. Collins David S. Collins	Sr. Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)