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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549  
FORM 10-K

/X/ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended December 31, 2004

or  
// TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 0-6890

MECHANICAL TECHNOLOGY INCORPORATED  
(Exact name of registrant as specified in its charter)

New York (State or other jurisdiction of incorporation or organization)	14-1462255 (I.R.S. Employer Identification No.)
431 New Karner Road, Albany, New York (Address of principal executive offices)	12205 (Zip Code)

Registrant's telephone number, including area code: (518) 533-2200

Securities registered pursuant to Section 12(b) of the Act: NONE

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

\$1.00 Par Value Common Stock  
(Title of class)

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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (Section 229.405 of this chapter) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or 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 an accelerated filer (as defined in Rule 12b-2 of the Act). Yes  No

The aggregate market value of the voting and non-voting Registrant's common stock held by non-affiliates of the Registrant on June 30, 2004 (based on the last sale price of \$5.98 per share for such stock reported by NASDAQ for that date) was approximately \$141,233,398.

As of March 9, 2005, the Registrant had 30,610,213 shares of common stock outstanding.

Documents incorporated by reference: NONE

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## PART I

### **ITEM 1: BUSINESS**

#### **Overview**

Mechanical Technology Incorporated, (“MTI” or the “Company”), a New York corporation, was incorporated in 1961. The Company is primarily engaged in the development and commercialization of Mobion™ cord-free advanced portable power systems, through its subsidiary MTI MicroFuel Cells Inc. (“MTI Micro”), and in the design, manufacture, and sale of high-performance test and measurement instruments and systems through its subsidiary MTI Instruments, Inc. (“MTI Instruments”). MTI also co-founded and retains a minority interest in Plug Power Inc. (“Plug Power”) (Nasdaq: PLUG), a designer and developer of on-site energy systems based on proton exchange membrane fuel cells.

#### **Operations**

MTI’s operations are conducted through MTI Micro, a majority-owned subsidiary, and MTI Instruments, a wholly-owned subsidiary. The Company currently owns approximately 89% of the outstanding common stock of MTI Micro and strategic partners, MTI Micro employees and MTI Micro board members own the remaining 11%. Officers, directors and employees of MTI and MTI Micro also hold options to purchase shares of MTI Micro common stock representing approximately 15% of MTI Micro’s outstanding common stock on a fully diluted basis as of December 31, 2004. Such options either have vested or will vest within the next four years.

The Company formed MTI Micro as a subsidiary on March 26, 2001 to develop direct methanol micro fuel cells (“DMFCs”) for portable electronics. DMFCs generate energy through the chemical reaction of methanol and water in the presence of a catalyst. In December 2004, MTI Micro shipped its first low volume production of Mobion™ fuel cell systems for use in hand held Radio Frequency Identification (“RFID”) tag readers. Although this product shipment was an important milestone, the Company and MTI Micro recognize that significant technical, engineering, manufacturing, cost and marketing challenges remain before Mobion™ fuel cells can become commercially viable or available.

MTI Instruments, formerly the Advanced Products Division of our Company, was incorporated as a subsidiary on March 8, 2000. MTI Instruments has three product groups: general gaging, semiconductor and aviation. These products consist of electronic, computerized general gaging instruments for position, displacement and vibration applications; semiconductor products for wafer characterization of semi-insulating and semi-conducting wafers; and engine balancing and vibration analysis systems for aircraft. MTI Instruments’ strategy is to continue to enhance and expand its product offerings with the goal of increasing market share and profitability.

#### **Products and Services**

##### ***MTI Micro***

MTI Micro designs and develops Mobion™ fuel cells for portable power applications. MTI Micro plans to develop and deliver products to the industrial and military markets in 2006 and continues to work on its consumer product introduction which it anticipates will follow introduction of military market products. Nonetheless, significant challenges remain and MTI Micro’s product development efforts continue to focus on the principal technological challenges of reliability, cost, manufacturability, energy density, size and operating latitudes. Specification targets for each of the technological issues vary depending on target markets and customer requirements.

A direct methanol micro fuel cell is a portable power source that converts the chemical energy of methanol into useable electrical energy. The Company believes Mobion™ fuel cell systems could eventually have an energy density of five to ten times that of current Lithium-Ion (“Li-Ion”) batteries. In addition, if and when Mobion™ fuel cells are ready to be sold in mass-commercial markets, they should be able to power a wireless electronic device for longer periods of time than Li-Ion batteries without recharging/refueling, and be instantly refueled without the need for a power outlet or a lengthy recharge.

The Mobion™ technology platform can be customized to provide portable power for a number of applications depending on the power level, required run time and size requirements.

During the fourth quarter of 2004, MTI Micro received a purchase order for 50 Systems and in December 2004, MTI Micro delivered 25 low volume production Mobion™ fuel cell systems to a customer for integration into a hand held RFID tag reader. These fuel cell systems are expected to extend the operating time of the current battery in the RFID tag reader by two to three times, depending on usage patterns between refueling. Such fuel cells may also be instantly refueled. The product-related revenue associated with these 25 Systems is subject to warranty obligations and has been deferred.

Our initial product is a low volume production Mobion™ fuel cell system (“System”), and is intended to offer instant cord-free recharging, using a replaceable fuel cartridge, and extended run times between charges from three to five times longer when compared to existing Li-Ion battery technology. Subsequent enhancements to our Systems are expected to expand the market opportunity for fuel cells by lowering the cost, decreasing operating and maintenance costs, increasing efficiency and improving reliability. This product is fueled by 100% methanol and can be recharged using a replaceable fuel cartridge. Subsequent derivations of the initial Mobion™ platform are expected to enable products for applications in the mass commercial portable electronics industry.

The commercialization of MTI Micro’s Mobion™ fuel cell products also depends upon MTI Micro’s ability to significantly reduce the costs of these systems and products, since they are currently substantially more expensive than systems and products based on existing technologies, such as rechargeable batteries. We cannot assure that MTI Micro will be able to sufficiently reduce the cost of these systems and products without reducing their performance, reliability and longevity.

MTI Micro has also developed prototype DMFC systems for military customers, including the RF Communications Division of Harris Corporation (“Harris”), a supplier of military communication devices, Army Research Laboratories, and other branches of the U.S. military. Pursuant to its initial agreement with Harris, MTI Micro delivered prototypes during 2003 and 2004. The Company also delivered prototypes of both its high and low power Mobion™ fuel cells during 2004.

***MTI Instruments***

MTI Instruments is involved in the design, manufacture and sale of high-performance test and measurement instruments and systems. MTI Instruments’ product development efforts are currently focused on a new calibrator for the PBS product line, and the enhancement to current PBS jet engine balancing systems and semiconductor products. MTI Instruments has three product groups: general gaging, semiconductor and aviation.

*General Gaging* – Gaging products include laser, fiber-optic and capacitance systems that measure a variety of parameters including displacement, position, vibration and dimension.

Listed below are selected products that MTI Instruments offers to its customers, including the Microtrak™ II which features state-of-the-art laser triangulation technology for precise measurements of displacement, position, vibration and thickness.

<u>Product</u>	<u>Description</u>	<u>Markets Served</u>
Microtrak™ II	High speed laser sensor utilizing the latest complementary metal-oxide semiconductor/charge-coupled device technology.	Data storage, semiconductor and automotive industries.
MTI-2100 Fotonic™ Sensor	Fiber-optic based vibration sensor with extremely high frequency response.	Data storage, semiconductor and automotive industries.
Accumeasure™ 9000	Ultra-high precision capacitive gaging system offering nanotechnology accuracy.	Data storage, semiconductor and automotive industries.

*Semiconductor* – Semiconductor products include a complete line of non-contact measurement systems for the semiconductor industry. Systems range from manual to fully automated and measure thickness, bow, warp, resistivity, site and global flatness for all wafer materials.

The Company believes MTI Instruments is well positioned in the semiconductor market with a line of semiconductor products and an active presence in the market. Some products in this category include:

<b><u>Product</u></b>	<b><u>Description</u></b>	<b><u>Markets Served</u></b>
Proforma™ AutoScan 200	Fully automated wafer characterization system for measuring thickness, total thickness variation (“TTV”), bow, warp, bulk resistivity, site and global flatness. The Proforma™ AutoScan 200 features pick and place robotics, laser cassette scanning, auto-sensing cassette stands for wafers of 75 – 200 mm diameter and a modular design for easy upgrades.	Wafer metrology segment of the semiconductor industry.
Proforma™ 200SA	Semi-automated, full wafer surface scanning for thickness, TTV, bow, warp, site and global flatness. The Proforma™ 200SA can be used for all wafer materials and accommodates diameters of 75 – 200 mm.	Wafer metrology segment of the semiconductor industry.
Proforma™ 300	Manual, non-contact measurement of wafer thickness, TTV and bow. The Proforma™ 300 measures all wafer materials including Silicon, Gallium-Arsenide, Indium-Phosphide and wafers mounted to sapphire or tape. The Proforma™ 300/G can accept wafers from 50 to 300 mm.	Wafer metrology segment of the semiconductor industry.

*Aviation* – Aviation products include vibration analysis and engine trim balance instruments and accessories for commercial and military jets. These products are designed to quickly pinpoint engine problems and eliminate unnecessary engine removals. Selected products in this area include:

<b><u>Product</u></b>	<b><u>Description</u></b>	<b><u>Markets Served</u></b>
PBS-4100 Portable Balancing System	The standard of the aviation industry worldwide, the portable PBS-4100 detects if an engine has a vibration problem or a trim balance problem. This system works on all engine types and models from all engine manufacturers.	Major commercial airlines, regional carriers, and the U.S. Military.
PBS-4100R Test Cell Vibration Analysis & Trim Balance System	Advanced trim balancing and diagnostic features for engine test cells.	Major commercial airlines, regional carriers, and the U.S. Military
PBS-3300	A compact balancing and vibration system for use in mobile test cells and distributed test stands.	Major commercial airlines, regional carriers, and the U.S. Military.

MTI Instruments’ largest customers include the U.S. Air Force and companies in the computer, electronic, semiconductor, automotive, aerospace, aircraft and bioengineering fields. In 2004, the U.S. Air Force accounted for \$3.508 million or 46.7% of product revenues; in 2003, the U.S. Air Force accounted for \$2.261 million or 40.8% of product revenues; in 2002,

the U.S. Air Force accounted for \$1.854 million or 34.6% of product revenues and ASML accounted for \$.546 million or 10.2% of product revenues.

## **Financing Arrangements**

### ***Private Placement***

The Company entered into a financing transaction with Fletcher International, Ltd. (“Fletcher”), on January 29, 2004 and amended the terms of such transaction on May 4, 2004. As of the date of this Annual Report, Fletcher has purchased 2,680,671 shares of our common stock pursuant to such financing transaction. In addition, Fletcher has the right to purchase an additional \$20 million of MTI’s common stock, on one or more occasions, at a price of \$6.34 per share at any time prior to December 31, 2006. Fletcher also has the right to receive MTI shares without payment upon the occurrence of certain events, including but not limited to, failing to register for resale with the SEC shares purchased by Fletcher on the time table agreed to, a restatement of the Company’s financial statements, change of control of the Company and issuance of securities at a price below Fletcher’s purchase price. We have filed registration statements covering all of the shares purchased by Fletcher as of the date of the Annual Report and in the event of any additional purchases we are similarly obligated to file one or more registration statements covering the resale of such shares. Fletcher also has the right to purchase up to 2,700,000 shares of Plug Power common stock owned by us, potentially at a discount to the market price of such shares at the time of purchase. See “*Business Transactions – Private Placement*” for a more detailed discussion of the 2004 private placement.

### ***MTI Micro***

MTI Micro is a majority-owned subsidiary of the Company. The Gillette Company (“Gillette”) entered into a strategic alliance agreement with the Company on September 19, 2003, whereby MTI Micro, Gillette and Gillette’s Duracell business unit will seek to jointly develop and commercialize micro fuel cell products to power high-volume, low-power, hand-held and mass market portable consumer devices. On August 18, 2004, the parties amended this agreement. Pursuant to the agreement, Gillette purchased 1,088,278 shares of MTI Micro common stock (representing approximately 2.97% of MTI Micro’s outstanding common stock at the time of investment) at a price of \$.92 per share for \$1 million. In connection with this agreement, Gillette may make additional investments of up to \$4 million subject to agreed milestones. For a more detailed discussion of the Gillette agreements, see “*Business Transactions – Gillette*”.

### ***First Albany Companies Inc. (“FAC”)***

As of December 31, 2004, FAC owned 2.9 million shares of the Company’s common stock. MTI has no agreements with FAC concerning the disposition of such shares. Such shares are not registered securities; therefore, FAC may only sell the Company’s shares pursuant to an effective registration statement or pursuant to an exemption from the registration requirements of the Securities Act of 1933. FAC may sell such shares pursuant to Rule 144(k) promulgated under the Securities Act and without respect to volume limitations pursuant to Rule 144(e).

## **Business Strategy**

MTI operates in two segments, the New Energy segment, which is conducted through MTI Micro and the Test and Measurement Instrumentation segment, which is conducted through MTI Instruments.

### ***New Energy***

MTI Micro’s business strategy is to develop a robust, reliable, manufacturable, cost-effective technology platform for Mobion™ fuel cells and then use that technology to target military, vertical and horizontal consumer portable electronic device markets.

The potential military markets include extended life power sources for weapons, sensors and other mission critical devices for the war on terror. The potential vertical markets include industrial products, including portable communications devices, wireless scanners, hand-held inventory control devices and electronic healthcare products. The potential horizontal markets span a broad range of consumer mass-market portable electronic devices such as personal digital assistants (“PDAs”), cell phones, global positioning systems and digital cameras. Due to needs and

characteristics of selected vertical markets, MTI Micro intends to enter targeted military and vertical markets prior to seeking entry into horizontal consumer markets.

The product specifications required to successfully penetrate MTI Micro's targeted markets vary depending on the device being powered. Weight, volume, peak power, environmental conditions, power duration and reliability are all factors that pose limiting thresholds on Mobion™ fuel cell introduction and acceptance. Therefore, MTI Micro will target products that have specifications that intersect its technology roadmap at various stages of development, so that it can introduce products earlier, while building its supply chain, manufacturing capabilities and key Original Equipment Manufacturers ("OEMs") relationships.

As a result of discussions with its partners, government agencies, OEMs and others, MTI Micro has developed a commercialization strategy that consists of three overlapping phases (industrial, military and consumer) for market introduction of Mobion™ fuel cells. This tiered approach is intended to enable MTI Micro to gradually penetrate each of its selected markets.

MTI Micro's management met all of its 2004 milestones culminating with MTI Micro's first Mobion™ portable product shipment described above. To move the Company forward in 2005, the Company has set the following milestones for MTI Micro:

- 1) Deliver sensor power-pack prototypes to the U.S. military for testing during the second quarter;
- 2) Deliver a soldier radio power-pack prototype during the third quarter;
- 3) Develop an engineering prototype with a replaceable fuel refill for the consumer market, also during the third quarter;
- 4) Enter into an agreement with a lead customer/partner for the sensor product by the end of 2005; and
- 5) By the end of 2005, to enter into an agreement with a lead OEM for the joint development of a consumer product.

### ***Strategic Partnerships***

MTI Micro intends to sell to multiple industries and enable OEMs to enhance existing product offerings. MTI Micro's strategy is to team with appropriate players in each of its targeted markets. In parallel with its product introduction strategy, MTI Micro plans to leverage joint development activities and other formal partnerships with key component and subsystems suppliers. MTI Micro also intends to rely heavily on OEMs as distribution channels for early vertical product introductions. MTI Micro anticipates that the nature of these relationships will vary, and as MTI Micro continues to mature and move forward with its product commercialization, such relationships will become increasingly important.

### ***Agreements***

***The Gillette Company ("Gillette")***. On September 19, 2003, MTI Micro entered into a strategic alliance agreement with Gillette whereby MTI Micro, Gillette and Gillette's Duracell business unit will seek to jointly develop and commercialize complementary micro fuel cell products to power future mass market, high volume and portable consumer devices.

The agreement provides for a multi-year exclusive partnership for the design, development and commercialization of a low power direct methanol micro fuel cell power system and a compatible fuel refill system. The strategic alliance agreement has three main components. First, Gillette and MTI Micro shall work together from a technical and marketing perspective to help create a market for micro fuel cells. Second, for a period of time, MTI Micro will receive a percentage of net revenues related to Gillette's sale of fuel refills for micro fuel cells. Third, Gillette has made, and may make in the future equity investments in MTI Micro. In addition, on September 19, 2003, Gillette made an initial \$1 million investment in MTI Micro common stock and may make additional investments of up to \$4 million subject to agreed milestones related to technical and marketing progress. As part of the agreement, MTI agreed to provide enough funding to MTI Micro to cover all operational costs for the first two years of the agreement. MTI satisfied this obligation in April 2004.

MTI Micro has not yet achieved the milestone necessary for the investment of the next \$1 million in additional funds by Gillette. We do not expect this to occur, if at all, until late 2005 or 2006. Based on the current rate of progress with Gillette, we anticipate that Gillette will not invest the remaining \$3 million until the end of 2008, if at all.

As part of the strategic alliance, MTI Micro transferred patents and other intellectual property related to fuel refill systems to Gillette, and Gillette transferred patents and other intellectual property related to DMFCs for hand held devices to MTI Micro. The patents and other intellectual property transferred to Gillette and any other intellectual property related to fuel refill systems for fuel cells for handheld devices, will be held in a licensing pool, which either party may license upon payment of a royalty fee. Both MTI Micro and Gillette will share in royalties related to the license of any intellectual property from the licensing pool.

The strategic alliance agreement is terminable by either party for cause at any time. In addition, either party may terminate the agreement without cause, if the other party does not meet the milestones set forth in the work plan through delivery of mutually agreed upon "deliverables" on milestones dates, as defined in the agreement and the work plan.

On August 18, 2004, MTI Micro entered into an amendment to the multi-year strategic alliance agreement. The amendment clarified the nature of the deliverables for the third and fourth milestones in the work plan; added an additional milestone; and changed the due dates for the third and fourth milestones. MTI Micro also granted a non-exclusive license to Gillette to any improvements by MTI Micro to intellectual property developed by Gillette.

MTI Micro is currently working collaboratively with Gillette to complete the third milestone which is due in May 2005.

For a more detailed discussion of the Gillette agreement, see "*Business Transactions – Gillette*"

**Harris Corporation ("Harris").** In November 2002 and October 2003, MTI Micro entered into agreements with the RF Communications Division of Harris to develop micro fuel cell system prototypes for potential use in Harris' radios. Under the agreements, MTI Micro delivered to Harris DMFC system prototypes during the first and second quarters of 2003 and the second quarter of 2004. MTI continues to work with Harris to explore new opportunities for Mobion™ products.

**Flextronics International USA, Inc. ("Flextronics").** In November 2004, MTI Micro entered into a Design Services Agreement with Flextronics for design and development, pre-production design manufacturing engineering, prototyping and first article manufacturing of MTI Micro's Mobion™ fuel cell systems. As part of this agreement, Flextronics will also provide services to MTI Micro pursuant to the Company's \$3 million grant from the Department of Energy ("DOE").

**Intermec Technologies Corporation ("Intermec").** In December 2004, MTI Micro delivered low volume production models of its Mobion™ fuel cell system to Intermec for integration into a hand held Intermec RFID tag reader. MTI expects to deliver additional units in low volumes to Intermec during 2005 and provide service and assistance to Intermec as Intermec ships products containing Mobion™ fuel cell systems to its customers. Intermec is currently working to install Mobion™ fuel cell systems into its RFID handles.

Pursuant to the agreement with Intermec, MTI Micro agreed to warranty the Mobion™ fuel cell systems shipped for a period of fifteen months. MTI Micro and Intermec are currently exploring whether there are follow-on applications to the RFID tag reader for Mobion™ fuel cell systems, particularly for military applications.

**E.I. du Pont de Nemours and Company ("DuPont").** MTI Micro entered into an agreement with DuPont in August 2001 to accelerate the development and commercialization of DMFCs for portable electronics and the agreement expired in July 2004. Under the expired agreement, the parties agreed to work together to jointly optimize DuPont's Nafion® membrane technology for MTI Mobion™ fuel cell systems. The Company has commenced discussions with DuPont regarding entering into a new development agreement that is similar to the expired agreement.

MTI Micro is also party to a supply agreement with DuPont providing that MTI Micro must purchase a majority of any membrane it purchases for its fuel cell from DuPont for a period of five years, commencing with the first commercial

sale of fuel cells in volume by MTI Micro, if DuPont can meet best price and best quality in the industry. The supply agreement is in full force and effect. DuPont owns a minority equity interest in MTI Micro.

### ***Grants and Contracts***

In 2004, MTI Micro was awarded, or received notification of award, for seven separate grants totaling a possible \$4.2 million in funding between 2005 and 2007.

In February 2004, MTI Micro received a \$200 thousand contract from the U.S. Army to build two DMFC prototypes to deliver 5 Watts of continuous power for 150 Watt hours and two DMFC prototypes to deliver 750 Milliwatts of power for 30 Watt hours. This contract was completed in December 2004.

In November 2003, the Company entered into a \$250 thousand contract with Harris to build two prototype units of a DMFC hybrid power supply in a similar form factor of a military battery. The original agreement entered into in October 2003 was for \$200 thousand and was modified in May 2004 increasing the contract to \$250 thousand. This contract is ongoing.

In May 2004, MTI Micro announced that it had been awarded a three year, cost shared development contract from the DOE Office of the Hydrogen, Fuel Cells, and Infrastructure Technologies. The award is for \$3 million in funding from DOE, which will be matched by a like amount from MTI Micro, for a total program of \$6 million. MTI Micro will share portions of this award with its manufacturing partner, Flextronics, and a regulatory partner, The Methanol Institute. MTI Micro is using this award to fund development of its Mobion™ fuel cells.

In October 2004, MTI Micro received two contracts to demonstrate energy density advantages and to quantify potential logistical advantages of its Mobion™ fuel cells for the United States Armed Forces. The first award is administered by the Army Research, Development and Engineering Command and will total approximately \$250 thousand over the period October 2004 through July 2005. The program includes the delivery of five integrated, hybrid DMFC systems to Special Operations Forces (“SOF”). These systems are targeted to provide continuous power to devices used by SOF and to deliver more than two times the energy of the battery currently used while fitting the same form factor. The second award, a Phase I Small Business Innovative Research contract from Marine Corp System Command, will provide \$70 thousand over the period from October 2004 through March 2005, to analyze and report on current regulations and requirements necessary to field DMFCs and fuel refill systems. An optional three month period could raise the total value of the contract to \$100 thousand. These contracts are ongoing.

During 2004, the New York State Energy and Research Development Authority (“NYSERDA”) modified its original contract dated March 2002 to add \$348 thousand for Phase III (Enhanced Energy Conversion Efficiency of Direct Methanol Fuel Cells – Validation and Testing). Phase III of the project supports DMFC technology development and commercialization efforts designed to move MTI Micro’s DMFC technology to product launch readiness.

In April 2004, MTI Micro entered into a \$200 thousand contract with Cabot Superior Micro Powders (“CSMP”) to evaluate the performance of CSMP’s membrane electrode assembly (“MEA”) for portable fuel cell application.

In December 2004, MTI Micro was notified that it had been selected to receive a grant for \$78 thousand from a New York State program administered by the State Department of Labor, which will fund training in business improvement processes designed to achieve the highest possible quality in processes and products.

In 2003, MTI Micro was awarded two contracts. One contract was for \$200 thousand from NYSERDA for Phase II of its original contract to support projects designed to deliver energy, environmental and economic benefits to the citizens of New York State. The second contract was from a New York State program administered by the State Department of Labor for \$41 thousand which funded training in Six Sigma®, a business improvement process designed to achieve the highest possible quality in processes and products. Activities have been completed under each of these contracts.

In 2002, MTI Micro was awarded a \$500 thousand contract from NYSERDA to enhance and leverage the work under the Advanced Technology Program (“ATP”) award. The NYSERDA award funded a year-long \$1 million cost-shared

research program targeting specific technical issues related to development of DMFCs as replacements for batteries in mobile phones and other handheld portable devices.

In 2001, MTI Micro was awarded a \$4.6 million grant to develop advanced micro fuel cell systems from the ATP of the federal government's NIST. The NIST grant was part of a two-and-a-half year, \$9.3 million cost-shared program to research and develop an advanced micro fuel cell system for portable electronics. The NIST grant was completed during 2004.

### ***Test and Measurement Instrumentation***

MTI Instruments' strategy in the Test and Measurement Instrumentation segment is to continue to enhance and expand its product offerings and market share and increase profitability.

### ***Contracts***

In 2002, MTI Instruments was awarded two multi-year U.S. Air Force contracts for its PBS-4100 jet engine balancing systems. The first contract involved up to \$3.1 million of sales for the Company in the years 2002 through 2004. Under the contract, the Company was to provide the Air Force with up to 53 PBS-4100 systems, 12 accessory kits and 42 amplifiers. The systems are key diagnostic tools in the maintenance of aircraft engines. As of December 31, 2004, MTI Instruments received \$2.5 million in orders for approximately 80% of the contract's total potential value prior to its expiration on September 30, 2004.

The second contract to service and retrofit existing PBS-4100 systems with the latest diagnostic and balancing technology could potentially generate up to a total of \$8.8 million in sales for the Company between the years 2002 and 2007. As of December 31, 2004, MTI Instruments had recorded \$3.7 million in orders for approximately 42% of the five-year contract's total value.

### ***New Products***

MTI Instruments' latest product offerings include:

*General Gaging.* In 2004, MTI Instruments introduced the MTI-2100 Fotonic™ Sensor - a "next generation" fiber-optic sensor for high-resolution, non-contact measurement of high frequency vibration and motion analysis. It replaced the MTI-2000 Fotonic Sensor. MTI Instruments also added the 1515 low-noise amplifier to its Accumeasure line. It is designed to meet the stringent requirements of brake rotor measurement applications in the automotive industry.

*Semiconductors.* In 2004, MTI Instruments introduced the Proforma™ 300SA - a semi-automated tool for measuring thickness, total thickness variation, bow, warp, stress and flatness of 300mm wafers.

*Aviation.* In 2004, MTI Instruments introduced the PBS-3300 - a compact balancing and vibration diagnostics system for use in mobile test cells and distributed test stands. It is currently being used to balance the AGT 1500 gas turbine engine in the U.S. Army's M1A1 tank.

### **Marketing and Sales**

In the New Energy segment, MTI Micro has an experienced sales and marketing organization. Pursuant to the Gillette strategic alliance agreement, Gillette and the Company have commenced a joint marketing effort to gather market information, generate and refine product roadmaps, establish key relationships, gather customer and OEM feedback and launch products into the marketplace. MTI Micro regularly evaluates its target market by conducting primary and secondary research and actively meeting and speaking with key industry suppliers and OEMs. In addition, MTI Micro representatives attend and speak at numerous conferences and trade shows for fuel cells, fuel cell development, batteries and other relevant target markets.

MTI Micro's Mobion™ technology was recognized with three industry awards in 2004. MTI Micro received the 2004 Frost & Sullivan Technology Innovation Award for technological superiority in its industry, and also accepted an award from Scientific American in recognition for its business leadership. A third award came from Popular Science's Best of

What's New as grand winner in the general innovations category.

In the Test and Measurement Instrumentation segment, MTI Instruments markets its products and services through a separate experienced marketing, sales and applications engineering staff. MTI Instruments' marketing and sales efforts are supported by a network of manufacturers' representatives, sales agents and distributors in domestic and foreign markets. In some cases, such as OEM accounts, MTI Instruments sells directly to its customers. To supplement these efforts, MTI Instruments also attends numerous trade shows in the areas of its concentration and uses product listings in appropriate media and directories and the Internet.

Comparisons of sales by class of products, which account for over 10 percent of the Company's consolidated sales, are shown below:

(Dollars in thousands)	Year Ended Dec. 31, 2004		Year Ended Dec. 31, 2003		Year Ended Dec. 31, 2002	
	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>	<u>Percent</u>
<b>Test and Measurement Instrumentation Products:</b>						
Aviation	\$ 4,027	53.48%	\$ 2,931	52.85%	\$ 2,816	52.52%
General Gaging	2,393	31.78	2,289	41.26	2,282	42.56
Semiconductor	<u>1,110</u>	<u>14.74</u>	<u>327</u>	<u>5.89</u>	<u>264</u>	<u>4.92</u>
Total	<u>\$ 7,530</u>	<u>100.00%</u>	<u>\$ 5,547</u>	<u>100.00%</u>	<u>\$ 5,362</u>	<u>100.00%</u>

### Competition

We anticipate that the primary competitive considerations in MTI Micro's markets will be compatibility of DMFC power sources with portable electronic devices, requirements for power pack size, energy content and reliability and price. We also believe the first company to successfully introduce a DMFC product in the commercial markets will have significant advantages over its competitors. Many of MTI Micro's competitors have much greater access to capital, resources, component supplies, manufacturing capacity and distribution channels than MTI Micro. In any event, because of the nature of product development, we cannot accurately determine our competitors' progress in developing DMFCs and whether such competitors' development efforts exceed MTI Micro's development efforts to date.

We analyze MTI Micro's competition based, in part, on two separate components of the DFMC market: (1) companies developing and providing DMFCs producing greater than three watts of energy, particularly companies focused on providing power devices for lap top computers; and (2) companies developing DMFCs producing less than three watts of energy. Within both of these categories, we have witnessed substantial changes during the last five years. Significant new competitors have emerged in Asia, Europe and in the United States. In addition, companies based in Japan, Korea, Germany and the United States have made patent filings in the U.S. for DMFC technologies.

Our primary focus in consumer markets is for hand held (less than 3 watt energy range) devices. Based on certain publicly available information, we believe MTI Micro's major competitors in the less than three watt energy range are large Asian companies, such as, Hitachi, Fijutsu and Toshiba. Both Toshiba and Hitachi have extensive patent portfolios and according to published reports, dedicated operations working on DMFCs. In addition both Hitachi and Toshiba have publicly introduced prototypes. Hitachi demonstrated DMFCs in personal digital assistant devices, or PDAs, and Toshiba demonstrated DMFCs in Bluetooth headsets and in MP3 players. We also compete with a number of smaller companies, such as, Medis Technologies Ltd., which announced a distribution and prototyping agreement with General Dynamics for military customers.

Based on certain publicly available information, we believe MTI Micro also faces significant competition is in the greater than three watt energy range, and in particular from companies focused on providing power for lap top computers. In this segment, we believe our major competitors are large Japanese, Chinese, Korean and American companies, including but not limited to Canon, Casio, Nanfu Battery, Fijutsu Laboratories, Hitachi, Matsushita Electric Works (Panasonic), NEC, Samsung, Sanyo, and Toshiba. Each of these companies has greater access to resources than

we and, as the result of vertical integration, may have significant advantages in bringing product to market. We also consider Smart Fuel Cells AG (“Smart”), based in Germany to be a significant competitor. Smart has had product available in the market for three years and each introduction of new product demonstrated improvement in size, performance and reliability. In addition, Smart’s fuel cells, which are significantly larger than MTI Micro’s fuel cells, may be more consistent with power demands for certain military products.

MTI Instruments is subject to competition from several companies, many of which are larger than MTI Instruments and have greater financial resources. MTI Instruments’ competitors include ADE Corporation, Sigma Tech Corporation, Corning Tropel Corporation, Chadwick-Helmuth (a business unit of Honeywell International, Inc.), ACES Systems and Keyence Corporation. While MTI Instruments has a share of its respective specialized market segments, it does not consider its share to be dominant within its industry. The primary competitive considerations in MTI Instruments’ markets are product quality and performance, price and timely delivery. MTI Instruments believes that its employees, product development skills and reputation are competitive advantages.

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### **Research and Development**

MTI Micro focuses on the research and development of Mobion™ direct methanol micro fuel cells for portable power applications. MTI Micro is developing a simplified DMFC technology platform intended to eliminate many of the pumps and valves found in traditional DMFC systems. MTI Micro’s technology platform also focuses on using components and subsystems that use standard mass manufacturing practices. This technology platform is designed to permit MTI Micro to address the needs of applications with various power, duration and size requirements. DMFC development efforts are also focused on reliability, manufacturability, miniaturization and cost considerations, as well as compliance with codes and standards for DMFC systems. MTI Micro shipped its initial low volume production Mobion™ fuel cell systems in late 2004. Continued improvement of the Mobion™ product and development for follow-on products is ongoing. The Company and MTI Micro recognize that significant technical and engineering challenges remain before DMFCs can become commercially viable or available.

MTI Instruments conducts research and develops technology to support its existing products and develop new products. MTI Instruments’ technology is generally an advancement of state-of-the-art in its industry. MTI Instruments seeks to achieve a competitive position by continuously advancing its technology rather than relying on patent protection. However, during 2004, MTI Instruments was awarded one patent supporting its semiconductor line.

During 2004, 2003 and 2002, the Company expended approximately \$13.0, \$8.3 and \$6.6 million, respectively, on product development and research costs, including \$4.0, \$3.8 and \$2.6 million, respectively, on partially funded research and development.

### **Intellectual Property and Proprietary Rights**

MTI Micro relies on a combination of patent (both national and international), trade secret, trademark and copyright protection to protect its intellectual property (“IP”). MTI Micro’s strategy is to apply for patent protection for all necessary design requirements. Additionally, MTI Micro systematically analyzes the existing IP landscape for DMFCs to determine where the greatest opportunities for developing IP exist.

As of December 31, 2004, MTI Micro has filed 68 U.S. patent applications, 13 international patent applications and has been awarded 16 U.S. patents. MTI Micro has developed an extensive portfolio of patent applications in areas including fuel cell systems, components, controls, manufacturing processes and system packaging.

MTI Micro believes that the following patents are material to its business and that all of its patents may be significant to its future business activities.

<u>Number</u>	<u>Patent Title</u>	<u>Expiration Date</u>
6,824,899	Apparatus and Methods of Sensor-less Optimization of Methanol Concentration in a DMFC	11/22/2020
6,821,658	Cold Start and Temperature Control Method and Apparatus for a Fuel Cell System	03/02/2021
6,794,067	Fuel Cell Control and Measurement Apparatus and Method Using Dielectric Constant Measurement	11/29/2020
6,761,988	FC System with Active Methanol Concentration Control	11/21/2020
6,686,081	Methods and Apparatuses for a Pressure Driven Fuel Cell System	05/15/2021
6,632,553	Methods and Apparatuses for Managing Effluent Products in a Fuel Cell System	03/27/2021
6,590,370	Switching DC-DC Power Converter and Battery Charger for Use with a DOFC Power Source	10/01/2022

In December 2000, MTI Micro licensed, on a non-exclusive basis, ten patent applications (eight issued and two abandoned) from Los Alamos National Laboratory (“LANL”). MTI Micro based its early DMFC systems work on these patents. MTI Micro has also licensed from LANL, on an exclusive basis, rights to European and Japanese counterpart applications for one LANL patent. Additionally, MTI Micro has licensing rights and obligations with respect to IP developed under agreements with Gillette, DuPont and other vendors.

In January 2005, MTI Micro and LANL modified the existing license such that it included in its entirety a total of nine issued U.S. patents. No changes were made to the license fees or royalties due under such license.

MTI Instruments relies primarily on trade secret law to protect its IP, however during 2004, MTI Instruments had one patent issued supporting its semiconductor product line.

### **Segment Information**

Segment information is set forth in Note 22 - Geographic and Segment Information - of the Notes to Consolidated Financial Statements referred to in Item 8 below and incorporated herein by reference.

### **Subsequent Events**

#### ***Litigation***

#### ***Ling Electronics, Inc.***

On March 3, 2005, the Company entered into a settlement agreement for the outstanding claim brought against it by Donald R. Gililand, Sharon Gililand, Vernon Dunham and Jean Dunham, related to a facility lease. The claim was settled for \$240 thousand to be paid by SatCon and \$35 thousand to be paid by the Company. This settlement released the Company from any future obligations. The Company has accrued costs to settle this claim and the settlement of this claim is accounted for in the results of operations for the year ended December 31, 2004, and will be paid in the Company’s first quarter 2005.

### **Significant Business Developments and Historical Business Developments**

MTI Micro shipped its first low volume production Mobion™ fuel cell systems in low volumes in December 2004. The Mobion™ fuel cell product was developed to deliver two important user benefits: instant cord-free re-charging, using a replaceable fuel cartridge, and extended run times between charges from three to five times longer when compared to existing Lithium- Ion (“Li-Ion”) battery technology. In the development and qualification of this initial Mobion™ product, MTI Micro became the world’s first company to obtain micro fuel cell safety compliance certifications from Underwriter’s Laboratory (“UL”) and CSA International (“CSA”). MTI Micro also received United Nations (“UN”)

packaging certification and was deemed compliant by the United States Department of Transportation (“DOT”) for worldwide cargo shipment of its methanol fuel cartridges. The Mobion™ power packs were manufactured by MTI Micro’s manufacturing partner Flextronics, in San Jose, California. Flextronics is a leading electronics manufacturing services provider.

MTI Micro has also built a number of system prototypes that demonstrate size reductions and performance improvements, the ability to operate in any orientation and operate at a range of voltages. MTI Micro also uses laboratory systems to demonstrate and test advanced concepts and technology. MTI Micro has demonstrated laboratory systems operating on 100% methanol and another laboratory system has achieved an energy density of 250 Watt hours per liter (“Wh/l”), which is comparable to that of a typical prismatic Li-Ion battery. This lab system also achieved an energy density of 200 Watt hours per kilogram (“Wh/kg”) on a weight basis, which surpasses the energy density of a typical prismatic Li-Ion battery. In addition, MTI Micro extracted 1 Wh/cc from methanol and 1.25 Watt hours per gram (“Wh/g”) on a weight basis in lab systems. MTI Micro is working to evolve its laboratory systems to prototypes and then to products.

From inception through December 31, 2004, the Company has incurred net losses of \$66.6 million and expects to incur losses as it continues micro fuel cell product development and commercialization. The Company expects that losses will fluctuate from year to year and that such fluctuations may be substantial as a result of, among other factors, equity financings, gains on sales of securities available for sale, the operating results of MTI Instruments and MTI Micro and the number of micro fuel cell products and prototypes produced.

## **Business Transactions**

### ***Equity Transaction***

#### ***Private Placement***

On January 29, 2004, the Company issued to Fletcher International, Ltd., or Fletcher, in a private placement (1) 1,418,842 shares of our common stock for an aggregate purchase price of \$10 million, or \$7.048 per share, and (2) rights to purchase up to an additional \$26 million of our common stock and in certain instances up to 3,000,000 shares of Plug Power Inc. (NASDAQ:PLUG) common stock owned by us, which rights are referred to herein as the additional investment rights.

On May 4, 2004, the Company amended its agreement with Fletcher. This agreement, as amended, (“the 2004 private placement”) includes a change in the exercise price for the rights to purchase additional shares of MTI common stock to a fixed price of \$6.34 per share from, in the original agreement, \$7.048 per share until December 31, 2005 and the lesser of \$7.048 per share or a variable price in 2006. The price is subject to adjustment upon the occurrence of certain limited events. The amended terms also include: (1) an increase in the rights to purchase additional shares of MTI common stock to \$28 million from \$26 million, (2) a reduction in Fletcher’s right to purchase Plug Power common stock escrowed by the Company to a maximum of 2,700,000 shares from a maximum of 3,000,000 shares, (3) an extension of the exercise period for the right to purchase Plug Power common stock to one or more purchases between June 1, 2005 and December 31, 2006 from a one-time purchase in June of 2005, (4) an extension of MTI’s ability to withdraw Plug Power common stock from escrow through December 31, 2006 instead of through June 30, 2005 and (5) an extension of the exercise period for the right to invest the first \$8 million in MTI’s common stock to any time prior to December 31, 2004 from any time prior to ninety business days after the effective date of MTI’s registration statement.

On May 20, 2004, the SEC declared effective the Company’s registration statement covering the resale of the 1,418,842 shares of common stock issued to Fletcher.

On December 22, 2004 the Company sold 1,261,829 shares of its common stock to Fletcher for an aggregate purchase price of \$8 million (or \$6.34 per share) in connection with Fletcher’s exercise of an additional investment right. Pursuant to additional investment rights and after giving effect to the 1,261,829 shares of common stock the Company issued to Fletcher on December 22, 2004, Fletcher has the right, but not the obligation, to purchase, in a single purchase or multiple purchases, up to an additional \$20 million of our common stock at any time prior to December 31, 2006 at a price per share equal to \$6.34, which date and price may be extended and adjusted, respectively, in the event that we

have not satisfied our contractual obligations with respect to the registration for resale of common stock issued or issuable to Fletcher or upon the occurrence of certain events. Fletcher also has the right to purchase, in a single or multiple purchases, up to 2,700,000 shares of Plug Power common stock owned by us in certain circumstances. On January 6, 2005, we filed with the SEC a registration statement for the registration of the 1,261,829 shares of our common stock issued to Fletcher in order to permit Fletcher to resell such shares.

#### *Additional Investment Rights*

The additional investment rights provide Fletcher with the right, but not the obligation, to purchase, in a single purchase or multiple purchases, up to an additional \$20 million of our common stock at any time prior to December 31, 2006 at a price per share equal to \$6.34, which date and price may be extended and adjusted, respectively, in the event that we have not satisfied our contractual obligations with respect to the registration for resale of common stock issued or issuable to Fletcher.

The table below illustrates the number of shares Fletcher would receive upon exercise of its \$20 million additional investment right at a price per share equal to \$6.34 (such exercise price is subject to adjustment as described below under “*Adjustment Provisions*”). Further, the Company's 2004 private placement agreement with Fletcher provides that the maximum number of shares we could potentially issue to Fletcher is 8,330,411 shares.

<u>Purchase Price MTI Stock</u>	<u>Shares Issuable in Exchange for \$20 Million Investment</u>
\$6.34	3,154,575

#### *Plug Power Shares*

The Company has placed 2,700,000 shares of Plug Power common stock in escrow that are available for purchase by Fletcher in certain instances. Fletcher may, on one or multiple occasions, from June 1, 2005 to December 31, 2006, exercise its right to purchase from us a number of shares of Plug Power common stock totaling \$10,000,000 divided by the prevailing price (as defined below) per share of Plug Power common stock, but only to the extent of the number of shares remaining in escrow. Commencing immediately after the SEC declared effective on May 20, 2004 the registration statement relating to shares of our common stock owned by Fletcher, we have the right to have 250,000 of such shares released from escrow to us, on a monthly basis, in the event that on any day during such month, the prevailing price of our common stock exceeds \$6.343 (which price may have been adjusted to reflect stock splits, recombinations, stock dividends or the like).

The exercise price for the Plug Power investment right is \$10,000,000 less the positive difference between \$18,000,000 and the product of the sum of 2,680,671 shares multiplied by the prevailing price per share of our common stock on the date Fletcher elects to exercise such right, all divided by the quotient obtained by dividing 10,000,000 by the prevailing price of Plug Power common stock on the date Fletcher elects to exercise such right. As used herein, a prevailing price is the average of the daily volume-weighted average price per share of common stock during the sixty-business-day period ending three days prior to the date Fletcher elects to exercise such right, provided however that the price may not exceed the average of the daily volume-weighted average prices for any ten business days within such sixty-business-day period. Each of the above referenced per share exercise prices for the additional investment rights is subject to adjustment as described below under “*Adjustment Provisions*.”

As a result of this exercise price calculation, we may be required to sell shares of Plug Power at a discount to prices we would otherwise obtain in sales at market prices. The table below illustrates such potential discounts based on assumed decreases in our stock price from \$5.00 (which, for the purposes of this illustration, serves as an approximation of the price of our common stock), and an assumed price of Plug Power common stock at the time of exercise.

<u>MTI Price</u>	<u>Assumed Plug Price</u>	<u>Effective Exercise Price</u>	<u>Percentage Discount to Market</u>	<u>Plug Shares Purchased</u>	<u>Proceeds to MTI</u>
\$5.00	\$7.00	\$3.78	46%	1,428,571	\$5,399,998
\$4.50	\$7.00	\$2.84	59%	1,428,571	\$4,063,023
\$3.00	\$7.00	\$0.03	99%	1,428,571	\$ 42,016
\$1.50	\$7.00	\$ -	100%	1,428,571	\$ -

#### *Adjustment Provisions*

The 2004 private placement with Fletcher also provides that the Company may be required to issue additional shares to Fletcher, reduce the exercise prices described above for the additional investment rights and/or extend the investment term upon the occurrence of certain events (each as more fully described below) including:

- a restatement of our financial results,
- a change in control of our company,
- a future issuance of our capital stock at a price less than \$7.048 as it relates to the initial \$10 million investment and \$6.34 as it relates to all additional investments, or
- our failure to maintain the effectiveness of the registration statement relating to shares of our common stock that Fletcher owns or may acquire, as well as our failure to satisfy the other requirements relating to registration.

#### *Restatement*

In the event we restate any portion of our financial statements prior to January 29, 2005, or prior to the first anniversary of the closing of any additional investment, as the case may be, the exercise price for the additional investment rights will be adjusted to equal the prevailing price of our common stock sixty days after we restate our financial statements. In addition, with respect to any investments made prior to the time of the restatement, Fletcher will receive additional shares of common stock such that all such investments will have been effectively made at such adjusted exercise price.

#### *Change in Control*

In the event of a change of control of our company prior to sixty days after the expiration of the additional investment term, we may have to issue additional shares of our common stock to Fletcher and the additional investment rights (including the right to purchase the Plug Power shares) may be accelerated. If the consideration per share paid to our shareholders in the change of control transaction is less than twice the amount of the price per share paid by Fletcher for any of its investments pursuant to the agreement with Fletcher or the certificate of additional investment rights, then we must issue to Fletcher a number of shares of our common stock such that all of its investments will have been effectively made at a price per share equal to such per share change of control consideration multiplied by 0.5.

#### *Dilutive Issuances*

If, after December 31, 2004 and ending December 31, 2006, we issue any equity securities at a price below \$7.048 as it relates to the initial \$10 million investment and \$6.34 as it relates to any additional investments which have been made, the exercise price for the additional investment rights shall be adjusted to provide Fletcher “weighted average” anti-dilution protection and we must issue to Fletcher a number of additional shares such that all prior investments will have been effectively made at such adjusted exercise price.

#### *Registration Obligations*

In the event we fail to satisfy our contractual obligations to register for resale shares of common stock issued or issuable to Fletcher, then we must issue to Fletcher a number of additional shares to reflect the number of shares it would have acquired if its purchase price was based on the actual exercise price reduced by five percent for each month in which we fail to satisfy our obligations and adjust the exercise price for the additional investment rights to such lower price. In addition, such failure will result in an extension of the investment term for each day we fail to satisfy our registration

obligations. These registration obligations include, among other things, maintaining the effectiveness of registration statements.

#### *Other*

The 2004 private placement also provides Fletcher certain other rights including, but not limited to, indemnification rights with respect to (1) breaches of representations, warranties and covenants contained in the agreements with Fletcher, and (2) misstatements in or omissions from the prospectus and the registration statement relating to shares of our common stock that Fletcher owns or may acquire.

#### *Placement and Amendment Fees*

In connection with the 2004 private placement, in February 2004 the Company paid placement fees, recorded in equity against the proceeds of the private placement, of \$600 thousand to Chicago Investment Group, L.L.C. and issued a warrant to purchase 28,377 shares of the Company's common stock at an exercise price of \$10.572 per share. The warrant may not be exercised until February 5, 2005 and expires on February 5, 2006. In connection with the amendment of the private placement, the Company paid advisory fees of \$300 thousand to Citigroup Global Markets Inc.

#### *Other Equity Transactions*

On December 20, 2002, the Company and FAC completed a share exchange transaction whereby FAC exchanged 8 million shares of the Company's common stock owned by FAC for 2,721,088 shares of Plug Power common stock owned by the Company. As a condition of the exchange, FAC agreed not to sell its remaining shares of the Company's common stock for two years. This lock-up agreement expired in December 2004. As of December 31, 2004, FAC owns 2,916,040 shares of the Company's common stock or 9.53% of the Company's outstanding common stock.

As a result of the FAC transaction, the Company was no longer required to account for its remaining investment in Plug Power under the equity method of accounting. Under the equity method of accounting, the Company was required to report its proportionate share of Plug Power's financial results. During 2002, the Company recorded a non-cash gain on the exchange transaction of \$8.006 million and recorded treasury stock at a non-cash cost of \$13.606 million.

#### *Gillette Agreement*

On September 19, 2003, MTI Micro, entered into a strategic alliance agreement with Gillette whereby MTI Micro, Gillette and Gillette's Duracell business unit will seek to jointly develop and commercialize micro fuel cell products to power high-volume, low-power, hand-held, mass market, portable consumer devices. On August 18, 2004, MTI Micro, entered into an amendment to the strategic alliance agreement with Gillette to clarify the allocation of deliverables in milestones 3 and 4; add an additional milestone; and change the due dates for MTI Micro's and Gillette's deliverables. MTI Micro also granted a non-exclusive license to Gillette to any improvements by MTI Micro to intellectual property developed by Gillette.

The agreement provides for a multi-year exclusive relationship for the design, development and commercialization of a low power direct methanol micro fuel cell power system and a compatible fuel refill system. Pursuant to the agreement, MTI Micro will focus on the development of the DMFC and Gillette will focus on the development of the fuel refill. In addition, both MTI Micro and Gillette transferred and licensed from each other certain IP assets, and both have the ability to earn royalties from that IP.

Gillette purchased 1,088,278 shares of MTI Micro common stock (representing approximately 2.97% of MTI Micro's outstanding common stock at the time of investment) at a price of \$.92 per share for \$1 million pursuant to an equity investment agreement. In addition, Gillette may make additional investments of up to \$4 million subject to agreed milestones. The Company expects that multiple investments, subject to scheduled milestone completions, will occur through the end of 2008.

The Company also agreed to invest \$20 million in MTI Micro before September 19, 2005 if other sources of funding are not available. Immediately prior to the Gillette transaction closing in September 2003, the Company invested \$11

million (\$7.4 million in cash and \$3.6 million through the conversion of a loan receivable to equity) in MTI Micro. On October 29, 2003, Jeong Kim, a member of the board of directors of MTI Micro, purchased 1,088,278 shares of MTI Micro common stock at a price of \$.92 per share for \$1 million and on April 7, 2004, the Company invested \$15 million into MTI Micro fulfilling its guaranty obligation.

### ***Formation of Subsidiaries***

On March 26, 2001, the Company formed MTI Micro and acquired substantially all of the outstanding stock of MTI Micro in exchange for contributing the assets of its micro fuel cell operations.

MTI Instruments, formerly the Company's Advanced Products Division, was incorporated as a subsidiary on March 8, 2000.

### ***Securities Available for Sale and Equity Holdings***

The Company and Edison Development Corp. ("EDC"), a subsidiary of DTE Energy Co., formed Plug Power as a joint venture in 1997, to further develop the Company's proton exchange membrane ("PEM") fuel cell technology. Plug Power designs and develops on-site energy systems based on PEM fuel cells. From 1997, when Plug Power was formed, through 1999, the Company contributed \$20.7 million to Plug Power. Immediately prior to the Plug Power initial public offering ("IPO") in 1999, the Company purchased an additional 2,733,333 shares of Plug Power common stock at \$7.50 per share for a total purchase price of \$20.5 million.

On October 29, 1999, Plug Power consummated an IPO of its common stock on the Nasdaq National Market under the symbol "PLUG." The IPO price for the 6 million shares issued was \$15 per share. Additionally, the underwriters of the IPO exercised their 900,000 shares over allotment at the IPO price.

As part of its program to restructure the Company and concentrate its limited financial resources on the development of its PEM fuel cell business, on October 21, 1999, the Company created a strategic alliance with SatCon Technology Corporation ("SatCon"). In exchange for Ling Electronics, Inc. and Ling Electronics, Ltd. (collectively, "Ling"), which were former subsidiaries of the Company, and the Company's cash support of approximately \$7 million to SatCon, the Company received 1,800,000 shares of SatCon's common stock and warrants to purchase an additional 100,000 shares of SatCon's common stock. SatCon also received warrants to purchase 100,000 (300,000 post-split) shares of the Company's common stock.

On May 23, 2000, in connection with its alliance with SatCon, and to support its interest in SatCon, the Company provided cash support of \$6 million to Beacon Power Corporation ("Beacon Power") and received preferred stock and warrants to purchase common stock, and the right to receive additional warrants for common stock if there was an IPO of Beacon Power common stock. In August 2000, the Company exercised warrants for 12,000 shares of Beacon Power common stock. On November 17, 2000, Beacon Power completed its IPO. Immediately prior to its IPO, Beacon Power converted its preferred stock to common stock and completed a 2-for-1 stock split. In connection with the IPO, Beacon Power also granted the Company a warrant to purchase 1,333,333 shares of common stock at an exercise price of \$2.25 per share. On December 20, 2000, the Company exercised its warrant for 1,333,333 shares on a cash-less exercise basis and received an additional 985,507 shares of Beacon Power common stock. On September 28, 2001, the Company received 544,148 shares of Beacon Power common stock pursuant to a pro rata distribution by SatCon. The Company recognized a gain of \$827 thousand on this dividend distribution.

The Company began selling its holdings in Plug Power, SatCon and Beacon Power during 2001. During 2003, the Company sold all of its remaining holdings in SatCon and in December 2002, sold all of its remaining holdings in Beacon Power.

### **Securities Available for Sale**

The Company's interest as of December 31, 2004 was:

	<u>NASDAQ Stock Symbol</u>	<u>Shares Owned</u>	<u>Ownership Percentage</u>
Plug Power	PLUG	2,893,227	3.95%
Plug Power – restricted <sup>(A)</sup>	PLUG	<u>2,700,000</u>	<u>3.69%</u>
		<u>5,593,227</u>	<u>7.64%</u>

(A) In connection with the Company's 2004 private placement, the Company has escrowed 2.7 million shares of Plug Power common stock.

The Company sold shares of the following securities and recognized gains (losses) and proceeds as follows for each of the years ended December 31:

(Dollars in thousands, except shares)	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b>Plug Power</b>			
Shares sold	480,000	2,000,000	35,000
Proceeds	\$4,479	\$10,251	\$ 163
Gross gain on sales	\$3,626	\$ 6,698	\$ 91
<b>SatCon</b>			
Shares sold	-	773,600	313,900
Proceeds	\$ -	\$ 1,403	\$ 392
Gross gain on sales	\$ -	\$ 785	\$ -
Gross loss on sales	\$ -	\$ -	\$( 95)
<b>Beacon Power</b>			
Shares sold	-	-	4,410,797
Proceeds	\$ -	\$ -	\$ 310
Gross loss on sales	\$ -	\$ -	\$(440)
Total net gain (loss) on sales	<u>\$3,626</u>	<u>\$ 7,483</u>	<u>\$(444)</u>

The Company sold shares of the following equity holdings and recognized gains and proceeds as follows for each of the years ended December 31:

(Dollars in thousands, except shares)	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b>Plug Power</b>			
Shares sold	-	-	1,165,000
Proceeds	\$ -	\$ -	\$ 9,059
Gross gain on sales	\$ -	\$ -	\$ 6,291
<b>SatCon</b>			
Shares sold	-	-	212,500
Proceeds	\$ -	\$ -	\$ 910
Gross gain on sales	\$ -	\$ -	\$ 78
Total net gain on sales	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 6,369</u>

Proceeds from these securities' sales have been used to pay down debt, invest in subsidiaries and fund operations.

### ***Availability of Information***

We make available through our website (<http://www.mechtech.com>), free of charge, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC. These reports may be accessed through our website's Investor Relations page.

The public may read and copy any materials the Company files with the SEC at the SEC's Public Reference Room at 450 Fifth Street, NW, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The Company files electronically with the SEC and the SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

### **Factors Affecting Future Results**

This Annual Report on Form 10-K and the documents we have filed with the Securities and Exchange Commission that are incorporated by reference into this Form 10-K contain forward-looking statements that involve risks and uncertainties. Any statements contained, or incorporated by reference, in this Form 10-K that are not statements of historical fact may be forward-looking statements. When we use the words "anticipates," "plans," "expects," "believes," "should," "could," "may," "will" and similar expressions, we are identifying forward-looking statements. Forward-looking statements involve risks and uncertainties, which may cause our actual results, performance or achievements to be materially different from those expressed or implied by forward-looking statements. These factors include, among others:

- our need to raise additional financing;
- risks related to developing Mobion™ direct methanol micro fuel cells and whether we will ever successfully develop commercially viable Mobion™ fuel cell systems;
- the potential for early termination of our agreement with Gillette and its Duracell division;
- our inability, or Gillette's inability, to develop Mobion™ fuel cell systems or fuel refills on our planned schedule;
- market acceptance of Mobion™ fuel cell systems;
- risks related to our first Mobion™ fuel cell product delivered in December 2004, including reliability, run time, customer acceptance and safety;
- our dependence on OEMs integrating Mobion™ fuel cell systems into their devices;
- the need for current regulations to change to permit methanol to be carried onto airplanes for Mobion™ fuel cell systems to achieve mass market commercialization;
- Fletcher's decision whether to exercise its additional investment rights and the price at which Fletcher purchases shares;
- risks related to the flammable nature of methanol as a fuel source;
- our history of losses;
- intense competition in the DMFC and instrumentation businesses;
- the risk we may become an inadvertent investment company;
- our dependence on the success of Plug Power Inc.;
- risks related to protection and infringement of intellectual property;
- the historical volatility of our stock price;
- general market conditions; and
- other factors referred to under the caption "Risk Factors" below.

Except as may be required by applicable law, we do not undertake or intend to update or revise our forward-looking statements, and we assume no obligation to update any forward-looking statements contained in, or incorporated by reference into, this Form 10-K as a result of new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

## **Risk Factors**

**We may be unable to raise additional capital to complete our product development and commercialization plans and the failure to complete such development and commercialization plans will materially adversely affect our business plans, prospects, results of operations and financial condition.**

Our cash requirements depend on numerous factors, including completion of our product development activities, our success in commercializing our Mobion™ fuel cell systems and market acceptance of Mobion™ fuel cells. Before we can successfully commercialize Mobion™ fuel cells, we must complete a number of critical activities, and certain events must occur, including further product development; manufacturing process development; development of large-scale production capabilities; completion, refinement and management of our supply chain; completion, refinement, and management of our distribution channel; and further work on codes and standards critical to consumer acceptance, including the existence of federal regulations that permit methanol in the passenger compartment of passenger airplanes. All of this will be expensive and require significant capital resources that are well in excess of all current resources available to us. We believe that we will need to raise additional funds to achieve commercialization of Mobion™ fuel cells. However, we do not know whether we will be able to secure additional funding, or funding on acceptable terms, to pursue our commercialization plans. We can raise funds in four ways: sale of certain of our Plug Power shares, sale of our Company's stock, sale of MTI Micro stock and sale of other assets. Pursuant to our amended agreement with Fletcher, we have deposited 2,700,000 shares of Plug Power common stock in escrow to satisfy our potential obligation to sell such shares to Fletcher. Fletcher may, in certain instances, purchase shares of Plug Power common stock at a price below the fair market value of the Plug Power shares at the time of purchase. In the event we are unable to have all the Plug Power shares released from escrow and Fletcher exercises its right to purchase the Plug Power shares, our ability to sell Plug Power shares will be reduced. In addition, although Fletcher has the right to invest up to an additional \$20 million in our common stock, there can be no assurances that Fletcher will exercise such right. If Fletcher does not exercise its additional investment rights and the price of Plug Power common stock decreases significantly, we may be forced to increase the number of Plug Power shares sold, or reduce spending on micro fuel cell development. If additional funds are raised through the issuance of equity securities, the percentage ownership of our then current shareholders will be reduced. If adequate funds are not available to satisfy either short or long-term capital requirements, we may be required to limit operations in a manner inconsistent with our development and commercialization plans, which would materially adversely affect our business plans, prospects, results of operations and financial condition in future periods.

**We are dependent on continued government funding for new energy research and development and instrumentation product sales. The loss of such contracts and the inability to obtain additional contracts may have a material adverse effect on our business plans, prospects, results of operations, cash flows and financial condition.**

A large portion of revenues at MTI Instruments and MTI Micro for the next several years may come from government contracts. The loss of such contracts and the inability to obtain additional contracts could materially adversely affect our business plans, prospects, results of operations, cash flows and financial condition.

**We may not successfully develop our new technology and the failure to do so will materially adversely affect our business plans, prospects, results of operations and financial condition.**

DMFCs are a new technology with many technical and engineering challenges still to be resolved. We cannot assure that we will be able to successfully resolve the technical and engineering challenges of DMFCs, or if we are successful, that such solutions will be commercially viable. Resolution of these technical and engineering issues requires substantial resources including financial, managerial and technical resources. We cannot assure that all the necessary resources will

be available to the degree, and at the times, they are needed. If we are unable to successfully develop Mobion™ fuel cells our business plans, prospects, results of operations and financial condition would be materially adversely affected.

**Current commitments for joint development, distribution, marketing and investment by The Gillette Company (Gillette) and its Duracell division may be subject to early termination and any such early termination will have material adverse consequences on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

Gillette and its Duracell division's commitments in the strategic alliance agreement and the other agreements entered into as a part of the strategic alliance transaction (including those commitments relating to joint development, distribution, marketing and investment) with MTI Micro are subject to early termination. Either MTI Micro or Gillette may terminate the strategic alliance agreement for cause at any time and at certain pre-defined periods of time, if technical milestones are not completed to the satisfaction of the other party. Gillette may also terminate the strategic alliance agreement prior to mass market commercialization if it decides not to establish fuel refill manufacturing capability.

The investment agreement with Gillette may be terminated if the strategic alliance agreement is terminated. In addition, any future investment by Gillette is conditioned upon MTI Micro reaffirming that the representations and warranties in the investment agreement are true as of the date of such investment. These representations and warranties include statements concerning ownership of intellectual property, and affirmations that MTI Micro is not infringing on the intellectual property of others and others are not infringing on MTI Micro's intellectual property. At this time we cannot determine whether MTI Micro will be able to make these statements as of the date of any potential future investments by Gillette, and the inability to make such statements could result in Gillette terminating the investment agreement.

Termination of MTI Micro's agreements with Gillette and its Duracell division would have material adverse consequences on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**MTI Micro may not be able to achieve commercialization of its products on the timetable it anticipates, or at all, and any such delay or failure would have material adverse consequences on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

We cannot guarantee that MTI Micro will be able to develop commercially viable Mobion™ fuel cell products on the timetable it anticipates, or at all. The commercialization of Mobion™ fuel cell products requires substantial technological advances to improve the efficiency, functionality, reliability, cost, performance and environmental operating latitude of these systems and products and to develop commercial volume manufacturing processes for these systems and products. We cannot guarantee that MTI Micro will be able to develop the technology necessary for commercialization of Mobion™ fuel cell products, or acquire or license the required technology from third parties. MTI Micro's failure to develop the technology necessary for high-volume commercialization of Mobion™ fuel cells that are reliable, cost effective and present a value proposition to the customer will, in each case, have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**Our cost to produce our current Mobion™ fuel cell product exceeds the amount for which we can currently sell such product. If we are unable to reduce the costs of our Mobion™ fuel cells, it will have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

The commercialization of MTI Micro's Mobion™ fuel cell products also depends upon MTI Micro's ability to significantly reduce the costs of these systems and products, since they are currently substantially more expensive than systems and products based on existing technologies, such as rechargeable batteries. We cannot assure that MTI Micro will be able to sufficiently reduce the cost of these systems and products without reducing their performance, reliability and longevity, which would adversely affect consumers' willingness to buy our systems and products and therefore materially adversely affect MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**Gillette may not be able to achieve commercialization of fuel refills on the timetable we anticipate, or at all, and the delay or failure to achieve such commercialization would have material adverse consequences on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

We cannot guarantee that Gillette will be able to, or will choose to, develop, acquire or license commercially viable fuel refills for Mobion<sup>TM</sup> fuel cell products on the timetable we anticipate, or at all. The commercialization of fuel refills for Mobion<sup>TM</sup> fuel cell products requires substantial technological advances to improve the efficiency, functionality, reliability, cost and performance of these systems and products and to develop commercial volume manufacturing processes for these systems and products. Gillette's failure to supply fuel refills would have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**A viable market for micro fuel cell systems may never develop or may take longer to develop than we anticipate. If a market for fuel cells does not develop or is delayed, it will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

Micro fuel cell systems for portable electronic devices represent an emerging market, and we do not know the extent to which our targeted distributors and resellers will want to purchase them and whether end-users will want to use them. The development of a viable market for our systems may be impacted by many factors that are out of our control, including:

- the cost competitiveness of other micro fuel cell systems;
- the future costs of materials used to build our systems;
- consumer reluctance to try a new product;
- consumer perceptions of our systems' safety;
- regulatory requirements; and
- the emergence of newer, more competitive technologies and products.

If a viable market fails to develop or develops more slowly than we anticipate, we may be unable to recover the losses we will have incurred to develop our product and we may be unable to achieve profitability, each of which would have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**Our first Mobion<sup>TM</sup> fuel cell product introduction could fail due to technical, customer acceptance, safety or other reasons. Any such failure could have a material adverse effect on MTI Micro's and the Company's business plans and prospects.**

Our shipment of Mobion<sup>TM</sup> fuel cells in December 2004 was our first shipment of this product. The fuel cells shipped may experience problems, including problems with reliability, run time, customer acceptance or safety. If the fuel cells shipped experience failures, it could result in a material adverse effect on MTI Micro's and the Company's business plans and prospects.

**Alternatives to our technology could render our systems obsolete prior to commercialization, which would have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

Our Mobion<sup>TM</sup> fuel cells are one of a number of alternative portable power energy solutions being developed as replacements for batteries, including thin film batteries, extended life lithium batteries and other types of fuel cell technologies. Technological advances in existing battery technologies or other fuel cell technologies may render our micro fuel cell systems obsolete and this would materially adversely affect our business plans, prospects, results of operations and financial condition.

**MTI Micro is dependent upon external OEMs to purchase certain of its products and integrate our Mobion<sup>TM</sup> fuel cells into their products. If external OEMs do not purchase and integrate our Mobion<sup>TM</sup> fuel cells into their products, our market will be very limited, which could have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

To be commercially useful, certain of our Mobion<sup>TM</sup> fuel cells must be integrated into products manufactured by OEMs. We cannot guarantee that OEMs will manufacture appropriate products or, if they do manufacture such products, that they will choose to use Mobion<sup>TM</sup> fuel cells. Any integration, design, manufacturing or marketing problems encountered

by OEMs could adversely affect the market for Mobion™ fuel cells, which could have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**In order to achieve mass commercialization of Mobion™ fuel cells, customers must be able to carry methanol fuel inside the passenger compartment of commercial airlines. If current airline, Federal Aviation Administration ("FAA") and international regulations do not change, passengers will be unable to carry non-dilute methanol in the passenger compartments of airplanes, which will have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

Current airline and FAA regulations and certain international laws, regulations and treaties limit the amount and concentration of methanol that any passenger can carry aboard passenger planes. We believe that these regulations must change for mass commercialization of Mobion™ fuel cell products to be possible, although we are not aware of any pending changes. If these regulations do not change, it would materially adversely affect MTI Micro's ability to achieve mass commercialization of Mobion™ fuel cell products and have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**In connection with the 2004 private placement, we may have to (1) sell shares of our common stock at prices which result in substantial dilution to our shareholders, and (2) issue additional shares of our common stock to Fletcher at prices that may be substantially below market value at the time of issuance without any payment required by Fletcher, which would cause our shareholders to suffer additional dilution.**

After giving effect to the 1,261,829 shares of common stock we issued to Fletcher on December 22, 2004, the 2004 private placement provides Fletcher additional investment rights to purchase up to an additional \$20 million of our common stock at a price equal to \$6.34 per share (subject to adjustment). Any exercise of the additional investment rights could result in sales of our common stock at prices that are below the market price for our common stock at the time the investment right is exercised and could result in substantial dilution to our shareholders.

Our agreement with Fletcher also provides that Fletcher will receive additional shares of our common stock with respect to shares it already owns, and the exercise price and term relating to unexercised additional investment rights will be adjusted to the benefit of Fletcher, each upon the occurrence of certain events or circumstances, some of which are beyond our control, including:

- issuances of our equity securities at a price below \$7.048 per share (which is the price Fletcher paid in connection with its initial \$10 million investment) or issuances of our equity securities at a price below \$6.34 per share (which is the exercise price relating to the additional investment rights);
- our failure to satisfy certain requirements relating to registering the resale of shares issued or issuable to Fletcher pursuant to the securities laws;
- a change in control of our Company; and
- a restatement of our financial results.

In any event, 8,330,411 shares is the maximum number of shares of our common stock we may be required to issue to Fletcher, which amount includes the 1,418,842 shares issued on January 29, 2004 and the 1,261,829 shares issued on December 22, 2004.

**In connection with the 2004 private placement, we may have to sell shares of Plug Power common stock at a price below the market value of such shares, which sales would reduce the value of our assets.**

Pursuant to our agreement with Fletcher, we have deposited 2,700,000 shares of Plug Power common stock in escrow to satisfy our potential obligation to sell such shares to Fletcher. The number of shares Fletcher may purchase and the exercise price for those shares is subject to fluctuation based on the market price of our common stock and the market price of Plug Power common stock. Accordingly, Fletcher may, in certain instances, purchase shares of Plug Power common stock either at a price below the fair market value of such shares, thereby reducing the value of our assets, or even if based on the market price of Plug Power shares, at a price at which we would not desire to sell such shares.

**In connection with the 2004 private placement, we will be responsible for having the resale of shares purchased by Fletcher registered with the SEC within defined time periods and subject to penalties if the shares are not registered with the SEC within those defined time periods.**

Pursuant to our agreement with Fletcher, we are obligated, within ten business days after the closing of the purchase of any additional shares by Fletcher pursuant to rights issued in connection with the 2004 private placement, to file a registration statement with the SEC covering the resale of all such shares. We are also obligated to cause each of those registration statements to be declared effective not more than sixty (60) days after the closing of the purchase of such shares, or if the registration statement is reviewed by the SEC, not more than ninety (90) days after the closing of the purchase of such shares. If we fail to file the registration statements or become effective as set forth above, we must issue to Fletcher a number of additional shares to reflect the number of shares it would have acquired if its purchase price was based on the actual exercise price reduced by five percent for each month in which we fail to satisfy our obligations and adjust the exercise price for the additional investment rights to such lower price. In addition, such failure will result in an extension of the investment term for each day we fail to satisfy our registration obligations. The Company initially filed a registration statement on January 6, 2005 which was within ten business days after the closing of the purchase of the additional 1,261,892 shares by Fletcher on December 22, 2004. The 90-day deadline for this registration statement to be declared effective is March 22, 2005.

**The sale of a substantial amount of our common stock in the public market could materially decrease the market price of our common stock.**

As of December 31, 2004, First Albany Corporation owned approximately 9.53% percent of our outstanding common stock. A lock-up agreement that had prohibited it from selling its shares of our common stock expired on December 20, 2004. Accordingly, these shares have the potential to be publicly traded, perhaps in large blocks. In addition, we agreed as part of the 2004 private placement with Fletcher to register for resale shares of our common stock owned by Fletcher. If a substantial amount of our common stock were sold in the public market, or even targeted for sale, it could have a material adverse effect on the market price of our common stock and our ability to sell common stock in the future.

**Current shareholders may be diluted as a result of additional financings.**

If we raise additional funds through the sale of equity or convertible debt securities in either the Company or MTI Micro, current shareholders' percentage ownership will be reduced. In addition, these transactions may dilute the value of common stock outstanding. We may have to issue securities that may have rights, preferences and privileges senior to our common stock. We cannot assure that we will be able to raise additional funds on terms acceptable to us, if at all. If future financing is not available or is not available on acceptable terms, we may not be able to fund our future needs, which would have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**We may be involved in intellectual property litigation that causes us to incur significant expenses or prevents us from selling our products, which could have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

In recent years, hundreds of fuel cell patents have been issued worldwide. Many of these patents are broadly written and encompass basic and fundamental theories of how fuel cells should or could work. As we continue to develop our technology, our designs may infringe the patent or intellectual property rights of others. Whether our technology infringes or not, MTI Micro and our Company may become subject to lawsuits in which it is alleged that we have infringed the intellectual property rights of others. We may also commence lawsuits against others who we believe are infringing upon MTI Micro's rights. Involvement in intellectual property litigation could result in significant expense to MTI Micro and our Company, adversely affecting the development of sales of the challenged product or intellectual property and diverting the efforts of our technical and management personnel, whether or not such litigation is resolved in our favor. In the event of an adverse outcome as a defendant or plaintiff in any such litigation, MTI Micro and the Company may, among other things, be required to:

- pay substantial damages;
- cease the development, manufacture, use, sale or importation of products that infringe upon other patented

intellectual property;

- expend significant resources to develop or acquire non-infringing intellectual property;
- discontinue processes incorporating infringing technology; or
- obtain licenses to the infringing intellectual property.

We cannot guarantee that MTI Micro or the Company would be successful in such development or acquisition or that such license would be available upon reasonable terms. Any such development, acquisition or license could require the expenditure of substantial time and other resources and could have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**MTI Micro's products use potentially dangerous, flammable fuels, which could subject its business and the Company to product liability claims. Any such law suits or claims could have a material adverse effect on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.**

The sale of Mobion™ fuel cells exposes MTI Micro and the Company to potential product liability claims that are inherent in methanol and products that use methanol. Methanol is flammable and therefore potentially dangerous. Any accidents involving MTI Micro's products or other methanol-based products could materially impede widespread market acceptance and demand for DMFCs which could have a material adverse effect on MTI Micro's and the Company's business plans and prospects. In addition, MTI Micro may be held responsible for damages beyond the scope of its insurance coverage. We also cannot predict whether MTI Micro will be able to maintain its insurance coverage on acceptable terms. Damages beyond the scope of MTI Micro's insurance coverage or the inability to maintain insurance coverage on acceptable terms would have a material adverse impact on MTI Micro's and the Company's business plans, prospects, results of operations and financial condition.

**We have incurred losses and anticipate continued losses. If we do not become profitable and sustain profitability, it will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

As of December 31, 2004, we had an accumulated deficit of \$66.624 million. For the year ended December 31, 2004, our net loss was \$4.191 million, which includes a net gain of \$3.626 million from sales of securities available for sale and an operating loss of \$13.592 million. We expect to continue incurring net losses from operations until we can produce sufficient revenues to cover costs. In order to achieve profitability, we must successfully achieve all or some combination of the following:

- develop new products for existing markets;
- sell these products to existing and new customers;
- increase gross margins through higher volumes and manufacturing efficiencies;
- control operating expenses; and
- develop and manage distribution capability.

Furthermore, we anticipate that we will continue to incur losses until we can produce and sell our fuel cell systems on a large-scale and cost-effective basis. Even if we do achieve profitability, we may be unable to sustain or increase our profitability in the future. Failure to do so will have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**Our competitors may develop a cheaper, better product and bring that product to market faster than we can. If we do not create a competitive DMFC product or we are late to market, it will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

There are a number of other companies developing DMFCs. Some of our competitors may have better access to resources and capital than we do. Some of our competitors are much larger and have better access to manufacturing capacity, supply chains and distribution channels than we do. Some of our competitors may resolve technical or engineering issues before we do. Accordingly, one or more of our competitors may bring a mass commercial product to market before we do. In addition, one or more of our competitors may make a better or cheaper product than we can

make. Failure to get to market with the best and most cost competitive DMFC product before our competitors would have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**We have limited experience manufacturing fuel cell systems on a commercial basis. If we do not achieve the necessary manufacturing capabilities, it will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

To date, we have focused primarily on research and development and have limited experience manufacturing micro fuel cell systems on a commercial basis. We are continuing to develop our prototype manufacturing capabilities and processes. We do not know whether the processes we have developed thus far will be capable of supporting large-scale, mass manufacturing, or whether we will be able to develop the other processes necessary for large-scale, mass manufacturing of Mobion™ fuel cells, that meet the requirements for cost, schedule, quality, engineering, design, production standards and volume requirements. Failure to develop or procure such manufacturing capabilities will have a material adverse effect on the Company's business plans, prospects, results of operations and financial condition.

**We may not be able to establish additional strategic relationships that we will need to complete our product development and commercialization plans. If we are unable to develop necessary strategic relationships on terms that are acceptable to us, it will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

We believe that we will need to enter into additional strategic relationships in order to complete our current product development and commercialization plans on schedule. If we are unable to identify or enter into a satisfactory agreement with potential partners, we may not be able to complete our product development and commercialization plans on schedule or at all, which would have a material adverse effect on our business plans, prospects, results of operations and financial condition. We may also need to scale back these plans in the absence of a partner, which would materially adversely affect our future business plans, prospects, results of operations and financial condition. In addition, any arrangement with a strategic partner may require us to issue a material amount of equity securities to the partner or commit significant financial resources to fund our product development efforts in exchange for their assistance or the contribution to us of intellectual property. Any such issuance of equity securities would reduce the percentage ownership of our then current shareholders, which would have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**We will rely on our partners to develop and provide components for our Mobion™ fuel cell systems. If our partners do not meet our quality, quantity, reliability or schedule requirements, it will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

We depend on third parties to supply many of the components of our Mobion™ fuel cell systems. A supplier's failure to develop and supply components in a timely manner, or to develop or supply components that meet our quality, quantity or cost requirements, or our inability to obtain substitute sources of these components on a timely basis or on terms acceptable to us, would harm our ability to manufacture our fuel cell systems. In addition, to the extent that our supply partners use technology or manufacturing processes that are proprietary, we may be unable to obtain comparable components from alternative sources. Failure to do so will have a material adverse effect on our business plan, prospects, results of operations and financial condition.

In addition, platinum is a key material in our micro fuel cells. Platinum is a scarce natural resource and we are depending upon a sufficient supply of this commodity. While we do not anticipate significant near or long-term shortages in the supply of platinum, any such shortages would adversely affect our ability to produce commercially viable fuel cell systems or significantly raise our cost of producing our fuel cell systems.

**Our inability to deliver a commercially viable Mobion™ fuel cell on time, or at all, will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

We introduced our first Mobion™ fuel cell product in limited quantities during December 2004. There may be technical or engineering challenges we have not anticipated, issues of reliability for our device, an inability for our device to be integrated into existing electronic devices, difficulties in obtaining materials or components, or problems with

manufacturing or distribution, and many other problems that we have not, and perhaps could not anticipate. All of these issues could delay or prohibit further releases of additional Mobion™ fuel cell products, which would have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**Failure to achieve future product development or commercialization milestones will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

We have established aggressive product development and commercialization milestones and dates for achieving development goals related to technology and design improvements. We use these milestones to assess our progress toward developing commercially viable fuel cell systems. Delays in our product development will likely have a material impact on our commercialization schedule. If we experience delays in meeting our development goals or if our micro fuel cell systems exhibit technical defects or if we are unable to meet cost, performance or manufacturing goals, including power output, useful life and reliability, our commercialization schedule will be delayed. In this event, potential purchasers of our initial commercial systems may choose alternative technologies and any delays could allow potential competitors to gain market advantages. We cannot assure that we will successfully achieve our milestones in the future and the failure to achieve such milestones would have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**If we are deemed to be an investment company and cannot find a safe harbor or exemption, and fail to register as an investment company, we may be forced to sell our interests in Plug Power, which may result in losses on such sales and unintended tax consequences.**

Our securities available for sale constitute investment securities under the Investment Company Act of 1940. In general, a company may be deemed to be an investment company if it owns investment securities with a value exceeding 40% of its total assets, subject to certain exclusions and exemptions.

Investment companies are subject to registration under, and compliance with, the Investment Company Act unless a particular exemption or safe harbor provision applies. If we were to be deemed an investment company, we would become subject to the requirements of the Investment Company Act. As a consequence, we would be prohibited from engaging in certain businesses or issuing certain securities, certain of our contracts might be voidable and we might be subject to civil and criminal penalties for noncompliance.

Until 2001, we qualified for a safe harbor exemption under the Investment Company Act based upon the level of our ownership of shares of Plug Power and our influence over its management or policies. However, since we began selling shares of Plug Power, this safe harbor exemption is no longer available.

On December 3, 2001, we made an application to the SEC requesting that they either declare that we are not an investment company because we are primarily engaged in another business or exempt us from the provisions of the Investment Company Act. The Company amended this application on October 20, 2003. This application is pending. If our application is not granted, we will have to find another safe harbor or exemption that we can qualify for, which may include a one year safe harbor granted by the Investment Company Act, or become an investment company subject to the regulations of the Investment Company Act.

If we were deemed to be an investment company and could not find another safe harbor or exemption and failed to register as an investment company, the SEC could require us to sell our interests in Plug Power, until the value of these securities is reduced below 40% of total assets. This could result in sales of our securities in quantities of shares at depressed prices and we may never realize anticipated benefits from, or may incur losses on, these sales. Further, we may be unable to sell some securities due to contractual or legal restrictions or the inability to locate a suitable buyer. Moreover, we may incur tax liabilities when selling assets.

**Our stock price may fluctuate as the value of Plug Power's share price fluctuates. Such price fluctuations may cause an investor to lose some or all of their investment.**

A primary asset of the Company is the shares of Plug Power common stock it owns. As of December 31, 2004, the Company owned 5,593,227 shares of common stock in Plug Power, which is a publicly traded company. Pursuant to our

agreement with Fletcher, we deposited 2,700,000 shares of Plug Power common stock in escrow to satisfy our potential obligation to sell such shares to Fletcher. The number of shares Fletcher may purchase and the exercise price therefore are subject to fluctuation based on the market price of our common stock and the market price of Plug Power stock. Accordingly, Fletcher may, in certain instances, purchase shares of Plug Power common stock at a price below the fair market value of such shares. The market price of the Plug Power common stock may fluctuate due to market conditions and other conditions over which the Company has no control. Fluctuations in the market price of Plug Power's common stock may result in fluctuations in the market price of the Company's common stock which could result in the loss of part or all of a shareholder's investment.

**We are partially dependent on the success of Plug Power, which is in the developmental stage. There is no assurance Plug Power will be successful. Plug Power's failure may have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

Our success is partially dependent on the success of Plug Power. Plug Power, a developer of on-site electric power generation systems utilizing Proton Exchange Membrane, has stated that it is a development stage company and it does not know when or whether it will successfully complete research and development of commercially viable on-site energy products. If Plug Power is unable to develop commercially viable on-site energy products, it will not be able to generate sufficient revenue to become profitable. There is no assurance Plug Power will successfully develop a commercial product, or if it does, that it will do so in the time frames predicted. Plug Power's failure to successfully develop a commercial product could have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**If we are not successful in protecting our patents and intellectual property, it will have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

Patent and trade secret rights are of material importance to us. No assurance can be given as to the issuance of patents or, if so issued, as to their scope. Patents granted may not provide meaningful protection from competitors. Even if a competitor's products were to infringe patents owned by us, or Plug Power, it would be costly to pursue an enforcement action and would divert funds and resources which otherwise could be used in operations. Furthermore, there can be no assurance that an enforcement action would be successful.

In addition to our patent rights, we also rely on treatment of our technology as trade secrets and upon confidentiality agreements. These agreements may be breached, and we may not have adequate remedies for any breach. Our inability to obtain patents, as well as to protect and enforce any patents that are issued as well as trade secrets, could have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**Our inability or failure to manage change effectively may have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

We continue to undergo rapid change in the scope and breadth of our operations as we advance the development of our micro fuel cell products. Such rapid change is likely to place a significant strain on our senior management team and other resources. We will be required to make significant investments in our engineering, logistics, financial and management information systems and to motivate and effectively manage our employees. Our business plans, prospects, results of operations and financial condition could be harmed if we encounter difficulties in effectively managing the budgeting, forecasting and other process control issues presented by such a rapid change.

**Our share price could be subject to extreme price fluctuations, and shareholders could have difficulty trading shares.**

The markets for high technology companies in particular have been volatile, and the market price of our common stock, which is traded on the Nasdaq National Market under the symbol MKTY, has been and may continue to be subject to significant fluctuations. Fluctuations could be in response to operating results, announcements of technological innovations or new products by us, Plug Power, or by our competitors, patent or proprietary rights developments, and market conditions for high technology stocks in general. In addition, the stock market in recent years has experienced extreme price and volume fluctuations that sometimes have been unrelated or disproportionate to the operating

performance of individual companies. These market fluctuations, as well as general economic conditions, may adversely affect the market price of our common stock and the ability of shareholders to dispose of our common stock.

**General economic conditions may affect investors' expectations regarding our financial performance and adversely affect our stock price, which may result in a material adverse effect on our business plans, prospects, results of operations and financial condition.**

Certain industries in which we sell and intend to sell products, such as the energy and semiconductor industries are highly cyclical. In the future, our results may be subject to substantial period-to-period fluctuations as a consequence of the industry patterns of our customers, general or regional economic conditions, and other factors. These factors may also have a material adverse effect on our business plans, prospects, results of operations and financial condition.

**The loss of key employees may have a material adverse effect on our business plans, prospects, results of operations and financial condition.**

Our success will depend, in large part, upon our ability to attract, motivate and retain highly qualified scientists and engineers, as well as highly skilled and experienced management, sales and technical personnel. Competition for these personnel is intense, and there can be no assurance that we will be successful in attracting, motivating or retaining key personnel. Our success depends to a significant extent upon a number of key employees, including members of senior management. The loss of the services of one or more of these key employees could have a material adverse effect on our business plans, prospects, results of operations and financial condition.

### **Operations Sold or Discontinued**

Ling Electronics, Inc. and Ling Electronics Limited (collectively, "Ling") were sold on October 21, 1999 to SatCon in exchange for 770,000 shares of SatCon common stock (which stock had a market value of approximately \$6.7 million on the transaction date). At the time of the sale, Ling designed, manufactured, and marketed electro-dynamic vibration test systems, high-intensity-sound transducers, power conversion equipment and power amplifiers used to perform reliability testing and stress screening during product development and quality control.

The sale of the Company's Technology Division, the sole component of the Technology segment, to NYFM, Incorporated (a wholly-owned subsidiary of Foster-Miller, Inc., a Waltham, Massachusetts-based technology company) was completed on March 31, 1998. Accordingly, the Company no longer includes such Technology Division among its reportable business segments. The Technology Division has been reported as a discontinued operation since December 26, 1997. See Note 21 of the Notes to Consolidated Financial Statements referred to in Item 8 below.

### **Backlog**

The backlog of orders believed to be firm is as follows:

December 31, 2004	\$0.5 million
December 31, 2003	\$0.4 million
December 31, 2002	\$0.4 million

The backlog relates to contracts and purchase orders received from commercial customers and government agencies.

### **Employees**

The total number of employees of MTI and its subsidiaries was 128 as of December 31, 2004, as compared to 108 as of December 31, 2003. This increase is primarily due to the addition of staff at MTI Micro and MTI to support the growth of operations.

Fiscal 2004 employees include corporate operations and the Company's two subsidiaries, MTI Micro and MTI Instruments. Executives and staff were chosen for their acumen, ability and experience in areas critical to the execution of the Company's core business strategy.

## **Significant Customers**

In the Test and Measurement Instrumentation Segment, in 2004, the U.S. Air Force accounted for \$3.508 million or 46.7% of product revenues; in 2003, the U.S. Air Force accounted for \$2.261 million or 40.8% of product revenues; in 2002 the U.S. Air Force accounted for \$1.854 million or 34.6% of product revenues and ASML accounted for \$.546 million or 10.2% of product revenues.

## **Manufacturing**

MTI Instruments assembles and tests its products at its facilities located in Albany, New York. We believe our existing assembly and test capacity is sufficient to meet our current needs. We believe that most of the raw materials used in our products are readily available from a variety of vendors. Additionally, we design and develop our products to use commodity parts in order to simplify the assembly process.

MTI Micro utilizes contract manufacturers to manufacture its Mobion™ fuel cell products. MTI Micro has established contracts with key suppliers and contract manufacturers. MTI Micro also works with third-party suppliers to design, develop and manufacture subsystems and components of its Mobion™ fuel cell products.

## **ITEM 2: PROPERTIES**

The Company leases office, manufacturing and research and development space in the following locations:

<u>Location</u>	<u>Segment</u>	<u>Primary Use</u>	<u>Approximate Number of Square Feet</u>	<u>Lease Expiration</u>
Albany, NY	Test and Measurement Instrumentation	Manufacturing, office and sales	20,700	2009
Albany, NY	New Energy and Other	Corporate headquarters, office and research and development	23,500	2006
Alexandria, VA	Other	Office	200	2005
Los Altos, CA*	New Energy	Office	1,500	2004

\* We vacated this facility on March 4, 2005 and relocated to offices in Los Gatos, CA. We entered into a lease for the new Los Gatos office for 1,568 square feet on January 26, 2005.

In management's opinion, the facilities are generally well maintained and adequate for our current needs and for expansion, if required.

## **ITEM 3: LEGAL PROCEEDINGS**

At any point in time, the Company and its subsidiaries may be involved in various lawsuits or other legal proceedings. Such lawsuits could arise from the sale of products or services or from other matters relating to its regular business activities, compliance with various governmental regulations and requirements, or other transactions or circumstances. The Company does not believe there are any such proceedings presently pending which could have a material adverse effect on the Company's financial condition.

### ***Lawrence***

On September 9, 1998, Barbara Lawrence, the Lawrence Group, Inc. ("Lawrence") and certain other Lawrence-related entities ("Plaintiffs") initially filed suit in the Bankruptcy Court and the United States District Court for the Northern District of New York which were subsequently consolidated in the District Court, against First Albany Corporation ("FAC"), MTI, Dale Church, Edward Dohring, Beno Sternlicht, Alan Goldberg and George McNamee (Goldberg and McNamee are former Directors of the Company), Marty Mastroianni (former President and Chief Operating Officer of the Company), and 33 other individuals ("Defendants") who purchased a total of 820,909 (2,462,727 shares post split)

shares of the Company's stock from the Plaintiffs. The case concerns the Defendants' 1997 purchase of MTI shares from the Plaintiffs at the price of \$2.25 per share (\$0.75 per share post split). FAC acted as Placement Agent for the Defendants in the negotiation and sale of the shares and in proceedings before the Bankruptcy Court for the Northern District of New York, which approved the sale in September 1997.

Plaintiffs claim that the Defendants failed to disclose material inside information concerning Plug Power, LLC to the Plaintiffs and therefore the \$2.25 per share (\$0.75 per share post split) purchase price was unfair. Plaintiffs are seeking damages of \$5 million plus punitive damages and costs. In April 1999, Defendants filed a motion to dismiss the amended complaint, which was denied by the Bankruptcy Court. On appeal in October 2000, Plaintiffs' cause of action was dismissed by the United States District Court for the Northern District of New York. In November 2000, Plaintiffs filed an appeal of that dismissal with the United States Court of Appeals for the Second Circuit. In June 2002, the Second Circuit Court of Appeals reversed the District Court decision and remanded the case for further consideration of the Plaintiff's claims as motions to modify the Bankruptcy Court sale order. The Plaintiff's claims have now been referred back to Bankruptcy Court for such consideration. In September 2003, the Bankruptcy Court issued an order permitting Plaintiffs to conduct limited discovery concerning how First Albany formed an opinion about the Company's stock up until the date the Stock Purchase Agreement was executed.

The Company believes the claims have no merit and intends to defend them vigorously. The Company cannot predict the outcome of the claims nor reasonably estimate a range of possible loss given the current status of the litigation. Accordingly, no amounts have been reserved for this matter.

#### ***Ling Electronics, Inc.***

On March 5, 2005, the Company entered into a settlement agreement for the outstanding claim brought against it by Donald R. Gililand, Sharon Gililand, Vernon Dunham and Jean Dunham, related to a facility lease. The claim was settled for \$240 thousand to be paid by SatCon and \$35 thousand to be paid by the Company. This settlement released the Company from any future obligations. The Company has accrued costs to settle this claim and the settlement of this claim is accounted for in the results of operations for the year ended December 31, 2004, and will be paid in the Company's first quarter of 2005.

#### **ITEM 4: SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS**

There were no matters submitted to a vote of the registrant's security holders during the fourth quarter of fiscal 2004.

## PART II

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

#### ***Price Range of Common Stock***

MTI stock is traded on the Nasdaq National Market under the symbol MKTY. Set forth below are the highest and lowest prices at which shares of the Company's common stock have been traded during each of the Company's last two years.

	<u>High</u>	<u>Low</u>
<b>Year Ended December 31, 2004</b>		
First Quarter	\$7.97	\$4.86
Second Quarter	6.88	4.89
Third Quarter	6.19	2.92
Fourth Quarter	6.50	3.88
<b>Year Ended December 31, 2003</b>		
First Quarter	\$ 2.65	\$1.42
Second Quarter	3.75	1.88
Third Quarter	6.40	3.00
Fourth Quarter	6.89	4.51

#### ***Number of Equity Security Holders***

As of February 22, 2005, the Company had approximately 559 holders of its \$1.00 par value common stock. In addition, as of such date, there were approximately 15,411 beneficial owners of our common stock held in "street" name.

#### ***Dividends***

The payment of dividends is within the discretion of the Company's Board of Directors and will depend, among other factors, on earnings, capital requirements, and the operating and financial condition of the Company. The Company has never paid and does not anticipate paying dividends in the foreseeable future.

#### ***Recent Sales of Unregistered Securities***

On January 29, 2004 the Company sold 1,418,842 shares of common stock and additional investment rights to Fletcher International, Ltd. in a private sale. On February 3, 2004, the Company filed a resale registration statement on Form S-3 for 6,384,790 shares of the Company's common stock issued or issuable pursuant to the Fletcher transaction. This registration statement became effective on May 20, 2004 with respect to the 1,418,842 shares issued to Fletcher. On May 4, 2004, the Company amended its agreement with Fletcher. On December 22, 2004, Fletcher exercised its right to purchase an additional 1,261,829 shares of the Company's common stock. On January 6, 2005, the Company filed a resale registration statement on Form S-3 for the 1,261,829 shares of the Company's common stock issued to Fletcher. Certain terms of this transaction are described under the "*Business Transaction – Private Placement*" caption contained in Part I, Item 1 of this Form 10-K. The Fletcher private placement was exempt from registration under the Securities Act pursuant to Section 4(2) thereof.

#### ***Issuer Purchases of Equity Securities***

None.

## **ITEM 6: SELECTED FINANCIAL DATA**

The following table sets forth summary financial information regarding the Company for the periods as indicated:

Statement of Earnings Data	Year Ended Dec. 31, <u>2004</u>	Year Ended Dec. 31, <u>2003</u>	Year Ended Dec. 31, <u>2002</u>	Three Months Ended Dec. 31, <u>2001</u>	Year Ended Sept. 30, <u>2001</u>	Year Ended Sept. 30, <u>2000</u>
(In thousands, except per share data)						
Product revenue	\$ 7,530	\$ 5,547	\$ 5,362	\$1,246	\$ 7,298	\$ 5,558
Funded research and development revenue	1,040	2,311	1,573	90	-	-
Gain (loss) on derivatives	614	(6)	(188)	(26)	(1,266)	-
Net gain (loss) on sale of securities available for sale	3,626	7,483	(444)	-	-	-
Net gain on sale of holdings	-	-	6,369	-	28,838	-
Gain on exchange of securities	-	-	8,006	-	-	-
(Loss) income from continuing operations before income taxes, equity in holdings' losses and minority interests	(9,121)	(1,731)	906	(17,161)	20,736	(4,917)
Income tax benefit (expense)	3,564	669	(367)	6,788	(7,524)	1,927
Minority interests in losses of consolidated subsidiary	1,366	490	418	104	123	-
Loss from continuing operations	(4,191)	(572)	(7,186)	(13,585)	(3,737)	(18,839)
Income from discontinued operations, net of taxes	-	13	225	-	-	243
Cumulative effect of accounting change for derivative financial instruments for Company's own stock, net of tax	-	-	-	-	1,468	-
Cumulative effect of accounting change for derivative financial instruments, net of tax	-	-	-	-	6,110	-
Net (loss) income	\$ (4,191)	\$ (559)	\$ (6,961)	\$ (13,585)	\$ 3,841	\$ (18,596)
<b>Basic and Diluted (Loss) Earnings Per Share<sup>1</sup></b>						
Loss from continuing operations	\$ (0.14)	\$ (0.02)	\$ (0.21)	\$ (0.38)	\$ (0.10)	\$ (0.54)
Income from discontinued operations	-	-	0.01	-	-	.01
Cumulative effect of accounting change for derivative financial instruments for Company's own stock	-	-	-	-	.04	-
Cumulative effect of accounting change for derivative financial instruments	-	-	-	-	.17	-
(Loss) earnings per share	\$ <u>(0.14)</u>	\$ <u>(0.02)</u>	\$ <u>(0.20)</u>	\$ <u>(0.38)</u>	\$ <u>0.11</u>	\$ <u>(0.53)</u>
<b>Balance Sheet Data:</b>						
Working capital	\$ 34,812	\$42,426	\$ 36,681	\$ 11,909	\$ 13,833	\$(23,151)
Securities available for sale	17,678	44,031	37,332	5,734	6,704	-
Securities available for sale – restricted	16,497	-	-	-	-	-
Holdings, at equity	-	-	-	38,937	47,197	64,356
Total assets	66,830	65,838	52,384	56,348	71,257	77,016
Total long-term obligations	24	24	24	4,406	8,453	2,852
Total shareholders' equity	55,584	48,266	40,748	47,608	54,047	45,029

<sup>1</sup>Earnings per share information has been retroactively adjusted to reflect the April 3, 2000 3-for-1 stock split.

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

### ***Overview***

The Company is primarily engaged in the development and commercialization of Mobion™ cord-free advanced portable power systems, through its subsidiary MTI MicroFuel Cells Inc. ("MTI Micro"), and in the design, manufacture, and sale of high-performance test and measurement instruments and systems through its subsidiary MTI Instruments, Inc. ("MTI Instruments"). MTI also co-founded and retains a minority interest in Plug Power Inc. ("Plug Power") (Nasdaq: PLUG), a designer and developer of on-site energy systems based on proton exchange membrane fuel cells.

MTI Micro designs and develops Mobion™ fuel cell systems for portable power applications. A micro fuel cell is a portable power source that converts chemical energy into useable electrical energy. MTI Micro is developing a micro fuel cell that uses methanol, a common alcohol, as its fuel. The Company believes direct methanol fuel cell ("DMFC") systems could potentially have an energy density of five to ten times that of Li-Ion batteries. The Company believes that, when commercialized, DMFC systems should be able to power a wireless electronic device for longer periods of time than Li-Ion batteries without recharging/refueling. In addition, Mobion™ fuel cell systems may be instantly refueled eliminating the need for a power outlet or a lengthy recharge.

MTI Micro's fuel cell technology platform can be customized to provide portable power for a number of applications depending on the power level, required run time and size requirements. MTI Micro's initial product is a power source for hand held RFID tag readers. The first Mobion™ fuel cell systems were delivered at the end of 2004 in low volumes to a single consumer.

MTI Micro has also developed prototype DMFC systems for military customers, including the RF Communications Division of Harris Corporation ("Harris"), a supplier of military communication devices. Pursuant to the Harris agreements, MTI Micro delivered prototypes during the first and second quarters of 2003 and the second quarter of 2004.

MTI Instruments has three product groups: aviation, general gaging and semiconductor. These product groups provide: electronic, computerized general gaging instruments for position, displacement and vibration applications; and semiconductor products for wafer characterization of semi-insulating and semi-conducting wafers and vibration analysis systems for aircraft engines. MTI Instruments' strategy is to continue to enhance and expand its product offerings with the goal of increasing market share and profitability. MTI Instruments' largest customers include the U.S. Air Force and industry leaders in the computer, electronic, semiconductor, automotive, aerospace, aircraft and bioengineering fields.

MTI Instruments' engine balancing and vibration analysis system primarily serves the aviation industry, both in the commercial and military sectors. These systems perform a number of vibration analysis and engine balancing functions typically for large turbofan engines on the flight-line and in test cells. In addition, MTI Instruments' engine balancing and vibration analysis system has recently been used for the first time in an industrial turbo machinery application.

MTI Instruments' general gaging product line employs three sensing technologies - capacitance, fiber optics and laser triangulation - to measure displacement, position, thickness, vibration and other dimensional measurement applications. The advantages of each technology are generally related to the requirements of specific applications, which typically transcend the capabilities of conventional measuring techniques. End-users cover a broad range of industrial markets, as well as research labs, universities and the government agencies.

MTI Instruments' semiconductor tools compete in the wafer metrology segment of the semiconductor equipment market. Product models include manual units, semi-automated units and fully automated systems that measure thickness, total thickness variation, bow, warp, site and global flatness. These metrology and inspection tools cover a broad range of applications both on the front-end and back-end of the manufacturing process. End-users of these tools include both wafer manufacturers (foundries) and device (chip) manufacturers.

From inception through December 31, 2004, the Company has incurred net losses of \$66.6 million and expects to incur losses as it continues micro fuel cell product development and commercialization programs. The Company expects that losses will fluctuate from year to year and that such fluctuations may be substantial as a result of, among other factors, gains on sales of securities available for sale and the operating results of MTI Instruments and MTI Micro.

### **Critical Accounting Policies and Significant Judgments and Estimates**

The Company's discussion and analysis of its financial condition and results of operations are based upon the Company's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. Note 1 to the consolidated financial statements includes a summary of the Company's most significant accounting policies. The preparation of these financial statements requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of assets and liabilities. On an on-going basis, the Company evaluates its estimates and judgments, including those related to revenue recognition, inventories, securities available for sale, income taxes and derivatives. Management bases its estimates on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Our critical accounting estimates were discussed with our Audit Committee.

The significant accounting policies that management believes are most critical to aid in fully understanding and evaluating our reported financial results include the following:

#### ***Revenue Recognition***

The Company recognizes revenue from development contracts based upon the relationship of actual costs to estimated costs to complete the contract. These types of contracts typically provide development services to achieve a specific scientific result relating to DMFC technology. Some of these contracts require the Company to contribute to the development effort. The customers for these contracts are both commercial customers and various state and federal government agencies. When government agencies are providing revenue, we do not expect the government to be a significant end user of the resulting products. Therefore, the Company does not reduce funded research and product development expense by the funding received. When it appears probable that estimated costs will exceed available funding on fixed price contracts, and the Company is not successful in securing additional funding, the Company records the estimated additional expense before it is incurred. The Company recorded an accrual for contract losses totaling \$557 thousand for the year ended December 31, 2004.

The Company recognizes revenue from product sales in accordance with Staff Accounting Bulletin ("SAB") No. 104, *Revenue Recognition*, which superseded SAB No. 101, *Revenue Recognition in Financial Statements*. Product revenue is recognized when there is persuasive evidence of an arrangement, delivery of the product to the customer or distributor has occurred, at which time title generally is passed to the customer or distributor, and the Company has determined that collection of a fixed fee is probable, all of which occur upon shipment of the product. If the product requires installation to be performed by the Company, all revenue related to the product is deferred and recognized upon the completion of the installation.

#### ***Inventory***

Inventory is valued at the lower of cost or the current estimated market value of the inventory. We periodically review inventory quantities on hand and record a provision for excess and/or obsolete inventory based primarily on our estimated forecast of product demand, as well as based on historical usage. Demand and usage for products and materials can fluctuate significantly. A significant decrease in demand for our products could result in a short-term increase in the cost of inventory purchases and an increase of excess inventory quantities on hand. Therefore, although we make every effort to ensure the accuracy of our forecasts of future product demand, any significant unanticipated changes in demand could have a significant impact on the value of our inventory and our reported operating results.

### ***Impairment of Securities Available for Sale and Equity Holdings***

The Company has held interests in companies having operations or technology in areas within its strategic focus, all of which are publicly traded and have highly volatile share prices. The Company currently owns shares in Plug Power. The Company records an impairment charge when it believes shares of Plug Power have experienced a decline in value that is other than temporary. If the Company determines that the decline in value is temporary, unrealized losses, net of income taxes, would be reported as a separate component of shareholders' equity.

Future adverse changes in market conditions or poor operating results of Plug Power could result in significant losses and an inability to recover the carrying value of Plug Power, thereby possibly requiring an impairment charge in the future. Further, positive changes in market conditions could result in significant gains in the future on Plug Power stock which had been previously subjected to an impairment charge.

### ***Income Taxes***

As part of the process of preparing our consolidated financial statements, the Company is required to estimate its income taxes in each of the jurisdictions in which it operates. This process involves the estimation of our actual current tax exposure together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. Included in this assessment is the determination of net operating loss carry forwards. These differences result in a net deferred tax asset. The Company must assess the likelihood that its deferred tax assets will be recovered from future taxable income and, to the extent that the Company believes that recovery is not likely, it must establish a valuation allowance.

Significant management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance recorded against our net deferred tax assets. We have recorded a valuation allowance due to uncertainties related to our ability to utilize certain net deferred tax assets, primarily consisting of net operating losses being carried forward. In the event that actual results differ from these estimates or we adjust these estimates in future periods, we may need to adjust the recorded valuation allowance, which could materially impact our financial position and results of operations. The Company has recorded a \$1.836 million valuation allowance against its deferred tax assets of \$5.647 million as of December 31, 2004, due to uncertainties related to its ability to utilize certain of these assets. The valuation allowance is based on estimates of the recoverability of certain net operating losses. In the event actual results differ from these estimates or we adjust these estimates in future periods we may need to adjust our valuation allowance which could materially impact our financial position and results of operations.

### ***Derivative Instruments***

The Company has held or issued certain derivative instruments and embedded derivative instruments and records these derivatives and embedded derivative instruments separated from the host contract in accordance with Statement of Financial Accounting Standards ("SFAS") No. 133, *Accounting for Derivative Instruments and Hedging Activities*, as amended by SFAS No. 138, *Accounting for Certain Derivative Instruments and Certain Hedging Activities*. These standards require the Company to recognize all derivative instruments as either assets or liabilities on the statement of financial position and measure these instruments at fair value. Fair value is estimated using the Black Scholes Option-Pricing Model. Fair value estimates are subject to significant change between periods due to fluctuations of the variables used in the model.

## **Discussion and Analysis of Results of Operations**

### **Results of Operations for the Year Ended December 31, 2004 Compared to December 31, 2003**

The following is management's discussion and analysis of certain significant factors, which have affected the Company's results of operations for the year ended December 31, 2004 compared to the year ended December 31, 2003.

**Product Revenue.** Product revenue for 2004 increased in comparison to the same period in 2003 by \$1.983 million, or 35.7%, to \$7.530 million. This increase is primarily the result of an increase in sales to aviation customers of \$1.203 million, reflecting an increase in shipments under two Air Force contracts and a \$.782 million increase in semiconductor product sales, which includes shipments of the first two AutoScans and two 300 SA wafer metrology tools.

In the Test and Measurement Instrumentation segment, the U.S. Air Force accounted for \$3.508 million or 46.7% of product revenues in 2004; as compared to 2003, where the U.S. Air Force accounted for \$2.261 million or 40.8% and ASML accounted for \$.546 million or 10.2% of product revenues.

Information regarding government contracts included in product revenue is as follows:

(Dollars in thousands, except contract values)

<u>Contract</u>	<u>Expiration</u>	<u>Revenues Year Ended Dec. 31, 2004</u>	<u>Revenues Year Ended Dec. 31, 2003</u>	<u>Revenues Contract to Date Dec. 31, 2004</u>	<u>Total Contract Orders Received to Date Dec. 31, 2004</u>
\$8.8 million Retrofit and Maintenance of PBS 4100's	06/20/2008	\$ 1,918	\$ 1,740	\$ 3,658	\$ 3,712
\$3.1 million PBS units and Accessory Kits	09/30/2004	\$ 1,447	\$ 211	\$ 2,469	\$ 2,469

MTI Micro shipped its initial low volume production commercial product to a customer who plans to offer an RFID tag reader powered by a Mobion™ fuel cell. MTI Micro's initial shipments of low volume production Mobion™ products is a customer specific arrangement that includes fuel cell systems and continued warranty support. While contract terms require payment upon delivery of the fuel cell system and are not contingent on the achievement of specific milestones or other substantive performance, the continuing obligation to warranty results in deferring recognition of product-related revenue and recognizing product-related revenue when the warranty obligations expire. The warranty on the product is for a period of fifteen months.

As MTI Micro gains commercial experience, including field experience relative to warranty based on the sales of its initial low volume production Mobion™ products, in future periods, MTI Micro may recognize product-related revenue upon delivery of the product or may continue to defer recognition, based on application of appropriate guidance within SAB 104, or changes in the manner contractual agreements are structured, including agreements with distribution partners.

**Funded Research and Development Revenue.** Funded research and development revenue for 2004 decreased in comparison to the same period in 2003 by \$1.271 million to \$1.040 million, a 55.0% decrease. The decrease is the result of the NIST and NYSERDA government contracts contributing \$1.381 million less revenue in 2004 compared to 2003 due to the completion of Phase II of the NYSERDA contract in the fourth quarter of 2003 and the wind down of the NIST contract during the third quarter of 2004. Harris revenues of \$.175 million and other military contractor revenue of \$.204 million were also recorded in 2003. These decreases were partially offset by \$.489 million in 2004 revenues under new contracts with ARL, CSMP and DOE.

Information regarding government contracts included in funded research and development revenue is as follows:

(Dollars in thousands, except contract values)

<u>Contract</u>	<u>Expiration</u>	Revenues	Revenues	Contract Revenues
		Year Ended December 31, 2004	Year Ended December 31, 2003	to Date as of December 31, 2004
\$3.0 million DOE	07/31/07	\$ 179	\$ -	\$ 179
\$249.8 thousand Army	09/30/05	\$ -	\$ -	\$ -
\$1.0 million NYSERDA <sup>(1)</sup>	08/31/05	\$ 105	\$ 404	\$ 806
\$69.9 thousand Navy	06/30/05	\$ -	\$ -	\$ -
\$200 thousand NIST <sup>(2)</sup>	06/30/05	\$ 110	\$ -	\$ 110
\$250 thousand Harris	03/31/05	\$ -	\$ 175	\$ -
\$200 thousand ARL	12/31/04	\$ 200	\$ -	\$ 200
\$4.6 million NIST <sup>(3)</sup>	09/30/04	\$ 446	\$ 1,528	\$ 3,342

<sup>(1)</sup> Total contract value is \$1.048 million consisting of three Phases: Phase I for \$500 thousand was from 3/12/02 thru 9/30/03; Phase II for \$200 thousand was from 10/28/03 with a completion date of 10/31/04; and Phase III for \$348 thousand commenced 8/23/04 and expires on 8/31/05. Phases I and II have been completed.

<sup>(2)</sup> This contract is a subcontract with CSMP under NIST.

<sup>(3)</sup> This contract is a joint venture with DuPont. DuPont's share of the contract revenue is \$1.3 million.

**Cost of Product Revenue.** Cost of product revenue in the Test and Measurement Instrumentation segment for 2004 increased in comparison to the same period in 2003 by \$.495 million, or 20.8%, to \$2.877 million. The increase was directly due to the higher sales volume for 2004 and its product mix, which during 2004 included the shipment of two AutoScan metrology tools which had reduced carrying values due to the weak semiconductor market conditions over the last two years.

Gross profit as a percentage of product revenue increased to 61.8% for 2004 from 57.1% in the prior year. The gross profit percentage increase was primarily due to a five point increase in PBS product margins resulting from pricing escalations built into both U.S. Air Force contracts. Additionally, in general instruments, capacitance products showed a nine point increase in margins resulting from decreased material costs and improved assembly efficiencies. All of the other product lines showed at least a two point improvement in margins over the prior year. Further adding to the current year's improvement was the sale of two AutoScan metrology tools, which had reduced carrying values due to the weak semiconductor market conditions over the previous two years.

**Funded Research and Product Development Expenses.** Funded research and product development expenses in the New Energy segment increased by \$.277 million or 7.4% to \$4.040 million for 2004 in comparison to the same period in 2003. The increased costs were attributable to the development of prototypes for Harris and costs incurred under new contracts with ARL for the delivery of micro fuel cell units and CSMP and DOE for the advancement of the consumer DMFC platform. Expenses were further increased by an accrual of estimated losses on contracts totaling \$557 thousand. This accrual was required because, during 2004, MTI Micro entered into a fixed price-cost-type completion contract with the Army for \$250 thousand and the forecast to complete this project exceeds the funding by \$540 thousand and the forecast to complete another fixed price contract exceeded costs incurred through December 31, 2004 by \$17 thousand. These costs were partially offset by decreased development costs related to the completion of the Phase II of the NYSERDA contract during 2003 and reduced costs related to the NIST contract as it was winding down during the third quarter of 2004.

**Unfunded Research and Product Development Expense.** Unfunded research and product development expenses increased by \$4.335 million or 94.5% to \$8.920 million for 2004 in comparison to the same period in 2003. This increase reflects a \$4.251 million increase in the New Energy segment reflecting increased internal development costs directed at commercializing micro fuel cells, including costs for the development of our micro fuel cell system and development costs in connection with Gillette and potential commercial products. Unfunded research and product development costs include the cost of micro fuel cell products shipped due to the initial fuel cell units being low volume production. Cost of micro fuel cell products includes the direct material cost incurred in the manufacture of the products

we ship. These costs consist primarily of production materials and fees paid to outside suppliers for subcontracted components and services. This increase also includes a \$.084 million increase in product development expenses in the Test and Measurement Instrumentation segment related to the continued development of the PBS-3300 and MTI-2100. The PBS-3300 is a smaller test cell system used for small turbines and props and the MTI-2100 is the newest version of the fiber-optic based vibration sensor.

***Selling, General and Administrative Expenses.*** Selling, general and administrative expenses increased by \$.488 million to \$6.325 million for 2004 in comparison to the same period in 2003. This change is primarily the result of an increase of \$.294 million in professional fees related to the Fletcher amendment, increased public relations costs of \$.167 million, increased insurance costs of \$.248 million, increased depreciation expense of \$.186 million due to an increase in capital expenditures offset by a decrease in professional fees of \$.427 million due to a business transaction that occurred during 2003.

***Operating Loss.*** Operating loss for 2004 in comparison to the same period last year increased by \$4.883 million to \$13.592 million, a 56.1% increase. This increase in operating loss results primarily from increases in research and product development expenses and selling, general and administration expenses and decreases in funded research and development revenue in the New Energy segment partially offset by increases in gross profits from product revenues in the Test and Measurement Instrumentation segment.

***Other Income.*** Revenue from sales of micro fuel cell products was \$0 million for the years ended December 31, 2004 and December 31, 2003. We defer recognition of initial micro fuel cell product-related revenue at the time of delivery and recognize this revenue as other income as the continued warranty obligations expire. The costs associated with the product and warranty obligations are expensed as they are incurred.

Our initial sales of low volume production Mobion™ products are a customer specific arrangement that includes fuel cell systems and continued warranty support. While contract terms require payment upon delivery of the System and are not contingent on the achievement of specific milestones or other substantive performance, the continuing obligation to warranty results in the Company deferring recognition of product-related revenue and recognizing product-related revenue as other income when the warranty obligations expire. The warranty on the product is for a period of fifteen months.

During the fourth quarter of 2004, we received a purchase order for 50 Systems and delivered 25 Systems during December 2004. The product-related revenue associated with these 25 Systems is subject to warranty obligations and has been deferred. For the year ended December 31, 2004, we deferred revenue in the amount of \$3,125 for these Systems. We had no System sales in 2003.

***Gain on Sale of Securities Available for Sale, Net.*** Results for 2004 included a \$3.626 million gain on the sale of securities available for sale compared to a \$7.483 million gain for the same period in 2003. The average selling price per share of Plug Power common stock was \$9.33 for 2004. The average selling price per share of Plug Power and SatCon common stock was \$5.07 and \$1.75, respectively, for 2003.

***Gain (Loss) on Derivatives.*** The Company recorded a gain of \$.614 million and a loss of \$.006 million on derivative accounting for 2004 and 2003, respectively. The 2004 gain relates to the embedded derivative for the purchase of Plug Power common stock, which is part of the 2004 private placement transaction, while the loss in 2003 related to warrants for the purchase of SatCon common stock held by the Company. Changes in derivative fair values for the embedded derivative and the SatCon warrants are calculated using the Black Scholes Option-Pricing Model.

***Impairment Losses.*** In 2004 and 2003, the Company recorded a \$0 and \$.418 million charge for impairment losses for other than temporary declines in the value of certain securities available for sale.

***Income Tax Benefit*** The income tax benefit rate for 2004 and 2003 was 39%. The tax benefit rates are primarily due to losses generated by operations. The valuation allowance at December 31, 2004 and 2003 was \$1.836 million. The Company determined that it was more likely than not that the ultimate recognition of certain deferred tax assets would not be realized.

Further, as a result of ownership changes in 1996, the availability of \$1.014 million of net operating loss carry-forwards to offset future taxable income will be limited pursuant to the Internal Revenue Code.

**Results of Operations for the Year Ended December 31, 2003 Compared to December 31, 2002**

The following is management's discussion and analysis of certain significant factors, which have affected the Company's results of operations for the year ended December 31, 2003 compared to the year ended December 31, 2002.

**Product Revenue.** Product revenue in the Test and Measurement Instrumentation segment for 2003 increased by \$.185 million, or 3.5%, to \$5.547 million. This increase is primarily the result of increased sales to aviation customers of \$.115 million reflecting increases related to the fulfillment of orders under two Air Force contracts; increases of \$.063 million in semiconductor product sales related to increases in the number of units sold and the sale of one 200 SA unit; and increases in sales to general gaging customers of \$.007 million. The general gaging increase consists of increased sales of \$.461 million in laser, accumeasure and parts and services products related to the first full year of sales for the MicroTrak II product offset by decreases of \$.454 million in OEM and fonic sensor products resulting from reduced sales to one major OEM customer.

In the Test and Measurement Instrumentation segment, in 2003 the U.S. Air Force accounted for \$2.261 million or 40.8% of product revenues; in 2002, the U.S. Air Force accounted for \$1.854 million or 34.6% and ASML accounted for \$.546 million or 10.2% of product revenues.

The Air Force contracts were finalized during the third and fourth quarters of 2002. Information regarding these contracts is as follows:

(Dollars in thousands, except contract values)

<u>Contract</u>	<u>Expiration</u>	<u>Revenues Year ended 12/31/2003</u>	<u>Revenues Year ended 12/31/2002</u>	<u>Total Orders Received</u>
\$8.8 million Retrofit and Maintenance of PBS 4100's	06/20/2008	\$ 1,740	\$ -	\$ 1,753
\$3.1 million PBS units and Accessory Kits	09/30/2004*	\$ 211	\$ 811	\$ 1,022

\* This contract may be extended by the Air Force at their discretion.

**Funded Research and Development Revenue.** Funded research and development revenue in the New Energy segment for 2003 increased by \$.738 million to \$2.311 million, a 46.9% increase. This increase is the result of government contracts moving toward completion as well as the addition of a NYSERDA contract for \$.200 million in 2003 and the addition of private company development revenue related to the development and delivery of prototypes which totaled \$.375 million in 2003.

Information regarding government contracts included in funded research and development revenue is as follows:

(Dollars in thousands, except contract values)

<u>Contract</u>	<u>Expiration</u>	<u>Revenues Year Ended 12/31/2003</u>	<u>Revenues Year Ended 12/31/2002</u>
\$4.6 million NIST *	09/30/04	\$ 1,528	\$ 1,278
\$200,000 NYSERDA	01/31/04	\$ 200	\$ -
\$500,000 NYSERDA	09/30/03	\$ 204	\$ 295

\* This contract is a joint venture with DuPont. DuPont's share of the contract is \$1.3 million.

**Cost of Product Revenue.** Cost of product revenue in the Test and Measurement Instrumentation segment for the year ended December 31, 2003 decreased by \$.046 million or 1.9% to \$2.382 million despite a higher sales volume for 2003 as compared to 2002. The 2003 change is primarily attributable to the increase in sales in the semiconductor product group whose gross margins increased to 59% in 2003 from 42% in 2002 due to product mix change to higher margin items.

Gross profit as a percentage of product revenue increased by 2.3% to 57.1% for the year ended December 31, 2003. This increase is primarily attributable to the increase in gross profits as a result of increased margins in the semiconductor products.

**Funded Research and Product Development Expenses.** Funded research and product development expenses in the New Energy segment increased by \$1.203 million or 47.0% to \$3.763 million for the year ended December 31, 2003. The increased costs are primarily attributable to increased development costs related to the NIST contract as it moved toward completion in 2004 and the addition of private company development contracts in 2003.

**Unfunded Research and Product Development Expenses.** Unfunded research and product development expenses for the year ended December 31, 2003 increased by \$.530 million or 13.1% to \$4.585 million. This increase reflects a \$.425 million increase for the New Energy segment reflecting increased internal development costs directed at commercializing micro fuel cells and a \$.105 million increase for the Test and Measurement Instrumentation segment for the development of a new calibrator to complement the PBS product line (aviation), enhancements to this segment's current PBS jet engine balancing and vibration analysis systems design and continued development of this segment's semiconductor products.

**Selling, General and Administrative Expenses.** Selling, general and administrative expenses for the year ended December 31, 2003 totaled \$5.837 million, an increase of \$.886 million or 17.9%. These increases are primarily the result of increased staffing levels needed to support business development and technical staff to support the New Energy segment's drive to commercialization, as well as patent filings, business transaction costs, insurance and commissions at the Test and Measurement Instrumentation segment.

**Operating Loss.** The year ended December 31, 2003 yielded an operating loss of \$8.709 million, an increase of \$1.650 million from 2002, or 23.4%. This change results primarily from increases in funded and unfunded research and development costs and selling, general and administrative expenses partially offset by increases in gross profits from product revenue in the Test and Measurement Instrumentation segment and funded research and development revenue in the New Energy segment.

**Gain (Loss) on Sale of Securities Available for Sale, Net.** Results for the year ended December 31, 2003 included a \$7.483 million net gain compared to the prior year ended December 31, 2002 \$4.444 million net loss. The average selling price per share of Plug Power and SatCon common stock was \$5.07 and \$1.75, respectively, for the year ended December 31, 2003 and the average selling price for Plug Power, SatCon and Beacon Power common stock was \$4.60, \$1.25 and \$0.07, respectively, for the year ended December 31, 2002.

**Gain on Sale of Holdings, Net.** Results for the year ended December 31, 2002 included a \$6.369 million net gain. The average selling price per share of Plug Power and SatCon common stock was \$7.77 and \$4.28, respectively, for the year ended December 31, 2002.

**Impairment Losses.** As of December 31, 2003, the Company had sold all securities which have been subject to impairments in the past. For the year ended December 31, 2003 and 2002, the Company recorded impairment charges of \$.418 and \$5.652 million, respectively, related to securities available for sale.

**Equity in Holdings' Losses, Net of Tax.** Results for the year ended December 31, 2002 included an \$8.143 million loss, net of tax from the recognition of the Company's proportionate share of losses in equity holdings including a \$2.475 million before tax charge related to the impairment of these investments. Equity in holdings' losses resulted from the Company's minority ownership in certain companies, which were accounted for under the equity method of accounting. Under the equity method of accounting, the Company's proportionate share of each company's operating losses and the Company's impairment losses associated with these investments were included in equity in holdings' losses. Equity in

holdings' losses for the year ended December 31, 2002 included the results from the Company's minority ownership in Plug Power and SatCon.

In 2002, equity in holdings' losses included a loss, before taxes, from Plug Power of \$10.111 million, from SatCon of \$1.110 million and a \$2.475 million loss on impairment of the SatCon investment. SatCon was accounted for on a one-quarter lag until the accounting was changed to fair value from the equity method on July 1, 2002. Plug Power was accounted for under the equity method until the accounting was changed on December 20, 2002 to fair value. As of December 31, 2002, interests in Plug Power and SatCon are carried at fair value, designated as available for sale, and any unrealized gains and losses are included in shareholders' equity as a component of accumulated other comprehensive income (loss).

***Income Tax Benefit.*** The tax rate for the year ended December 31, 2003 was 39% compared to the rate for the year ended December 31, 2002 of 41%. These tax rates are primarily due to losses generated by operations and the \$.692 million change in valuation allowance in 2002. The valuation allowance at December 31, 2003 and 2002 was \$1.836 million. The Company determined that it was more likely than not that the ultimate recognition of certain deferred tax assets would not be realized. Further, as a result of ownership changes in 1996, the availability of \$1.467 million of net operating loss carry-forwards to offset future taxable income will be limited pursuant to the Internal Revenue Code.

### **Liquidity and Capital Resources**

The Company has incurred significant losses as it continues to fund MTI Micro's DMFC product development and commercialization programs. The Company expects that losses will fluctuate from year to year and that such fluctuations may be substantial as a result of, among other factors, gains on sales of securities available for sale, the operating results of MTI Instruments and MTI Micro, the availability of equity financing including the additional investment rights issued in connection with the 2004 private placement and the ability to attract government funding resources to offset research and development costs. As of December 31, 2004, the Company had an accumulated deficit of \$66.624 million. During the year ended December 31, 2004, the Company's results of operations resulted in a net loss of \$4.191 million and used cash in operating activities totaling \$11.982 million. This cash use in 2004 was funded primarily by net proceeds from the 2004 private placement received in January which totaled \$8.985 million, proceeds from the sale of Plug Power securities which totaled \$4.479 million and proceeds from subsidiary stock issuances of \$2.194 million. The Company also received net proceeds of \$7.939 million from the 2004 private placement in December. The Company expects to continue to incur losses as it seeks to develop and commercialize Mobion™ fuel cell systems and it expects to continue funding its operations from current cash and cash equivalents, the sales of securities available for sale, proceeds, if any, from the exercise of additional investment rights issued in connection with the 2004 private placement or other equity financings and government program funding. The Company expects to spend approximately \$12.5 million on research and development of Mobion™ fuel cells and \$1.2 million in research and development on MTI Instruments' products in 2005.

There can be no assurance that the Company will not require additional financing during 2005 or that any additional financing will be available to the Company on terms acceptable to the Company, if at all. Cash used in operations is expected to total approximately \$16.5 million for 2005. Further, cash used for capital expenditures is expected to total approximately \$1.5 million in 2005 and will consist of purchases for furniture, computer equipment, software and manufacturing and laboratory equipment. The Company believes it will have adequate resources to fund operations and capital expenditures through the fourth quarter of 2006 based on current cash and cash equivalents, current cash flow and revenue projections and the potential sale of unrestricted securities available for sale at current market values. Proceeds from the sale of unrestricted securities available for sale are subject to fluctuations in the market value of Plug Power as well as limitations on the ability to sell shares arising from the escrow of 2,700,000 shares in connection with the Fletcher right to purchase Plug Power common stock between June 1, 2005 and December 31, 2006, subject to the terms of the agreement with Fletcher. The Company may also seek to provide additional resources through an equity offering. Additional government revenues and Fletcher's potential exercise of additional investment rights totaling up to an additional \$20 million could also provide additional resources. The Company anticipates that it will have to raise additional equity capital to fund its long-term business plan, regardless of whether Fletcher exercises any or all of its additional investment rights.

During 2004, the Company sold 480,000 shares of Plug Power common stock under Rule 144. Future sales of Plug Power securities will generate taxable income or loss, which is different from book income or loss, due to the tax bases in these assets being significantly different from their book bases. Book and tax bases as of December 31, 2004 are as follows:

<u>Security</u>	<u>Shares Held</u>	<u>Average Book Cost Basis</u>	<u>Average Tax Basis</u>
Plug Power- unrestricted	2,893,227	\$1.78	\$0.96
Plug Power- restricted <sup>(A)</sup>	2,700,000	\$1.78	\$0.96

(A) In connection with the Company's 2004 private placement, the Company has escrowed 2.7 million shares of Plug Power common stock.

As of December 31, 2004, the Company owned 5,593,227 shares of Plug Power common stock. In connection with the 2004 private placement the Company has placed 2,700,000 of its Plug Power shares in escrow and Fletcher has the right, beginning June 1, 2005 and ending December 31, 2006, to purchase those shares, potentially at a discount. Plug Power stock is currently traded on the Nasdaq National Market and is therefore subject to stock market conditions. When acquired, these securities were unregistered. Plug Power securities are considered "restricted securities" as defined in Rule 144 and may not be sold in the future without registration under the Securities Act, unless in compliance with an available exemption there from.

Working capital was \$34.812 million at December 31, 2004, a \$7.614 million decrease from \$42.426 million at December 31, 2003. This decrease is primarily the result of decreases in securities available for sale due to reclassification of securities to restricted assets and decreases in current deferred tax liabilities offset by an increase in current assets for the proceeds from the 2004 private placement.

At December 31, 2004, the Company's order backlog was \$.480 million, compared to \$.447 million at December 31, 2003.

Inventory and accounts receivable (from product revenues) turnover ratios and their changes for the last two annual periods are as follows for the years ended December 31:

	<u>2004</u>	<u>2003</u>	<u>Change</u>
Inventory	2.1	1.7	.4
Accounts receivable (from product revenues)	9.6	8.3	1.3

The changes in the inventory and accounts receivable turnover ratios are the result of the volume and timing of sales. The Test and Measurement Instrumentation segment had significantly higher monthly sales in December 2004 compared to December 2003, and higher sales in 2004 compared to 2003.

Cash flow used by operating activities excluding discontinued operations was \$11.982 million in 2004 compared with \$7.673 million in 2003. This cash use increase of \$4.309 million reflects increases in cash expenditures to fund New Energy segment operations' growth, partially offset by balance sheet changes, which reflect the timing of cash payments and receipts.

Capital expenditures were \$1.834 million in 2004, an increase of \$.764 million from the prior year. Capital expenditures in 2004 included furniture, computer equipment, facility expansion, software, and manufacturing and laboratory equipment. Outstanding commitments for capital expenditures as of December 31, 2004 totaled \$8 thousand and include expenditures for computer software. The Company expects to finance these expenditures with current cash and cash equivalents, the sale of unrestricted securities available for sale, equity financing and other sources, as appropriate and to the extent available.

On January 29, 2004, the Company sold 1,418,841 shares of our common stock to Fletcher for an aggregate purchase price of \$10 million, or \$7.048 per share. On December 22, 2004, we sold 1,261,829 shares of our common stock to Fletcher for an aggregate purchase price of \$8 million (or \$6.34 per share) in connection with Fletcher's exercise of an additional investment right. We originally issued such additional investment right along with shares of our common stock to Fletcher in a private placement transaction in January 2004. We amended the terms of this private placement in

May 2004 (as amended, the 2004 private placement). Pursuant to additional investment rights and after giving effect to the 1,261,829 shares of common stock we issued to Fletcher on December 22, 2004, Fletcher has the right, but not the obligation, to purchase, in a single purchase or multiple purchases, up to an additional \$20 million of our common stock at any time prior to December 31, 2006 at a price per share equal to \$6.34, which date and price may be extended and adjusted, respectively, in certain circumstances, and up to 2,700,000 shares of Plug Power common stock owned by us in certain circumstances.

During 2004, the Company sold 480,000 shares of Plug Power common stock with proceeds totaling \$4.479 million and net gains totaling \$3.626 million. These proceeds reflect the Company's previously announced strategy to raise additional capital through the sale of Plug Power stock in order to fund its micro fuel cell operations. Taxes on the net gains are expected to be offset by the Company's operating losses. As of December 31, 2004, the Company estimates its remaining net operating loss carry forwards to be approximately \$24.727 million.

### **Contractual Obligations**

Contractual obligations as of December 31, 2004, under agreements with non-cancelable terms are as follows:

	Payments Due by Period				
	<u>Total</u>	<u>Less Than 1 Year</u>	<u>1-3 Years</u>	<u>3-5 Years</u>	<u>More than 5 Years</u>
<b>Contractual obligations:</b>					
Operating leases	\$2,032	\$ 637	\$ 790	\$ 605	\$ -
Purchase obligations	2,096	1,900	196	-	
License obligations (A), (B)	3,750	250	500	750	2,250
Other long-term liabilities recorded on the balance sheet	<u>24</u>	<u>-</u>	<u>24</u>	<u>-</u>	<u>-</u>
Total	<u>\$7,902</u>	<u>\$2,787</u>	<u>\$1,510</u>	<u>\$1,355</u>	<u>\$2,250</u>

(A) Once products are sold under the LANL license agreement, royalties will be based on 2% of the first \$50 million of net sales, 1% on net sales in excess of \$50 million but less than \$100 million and .5% on net sales in excess of \$100 million. License payments made in any year may be applied against royalties due and total annual fees in any year shall not exceed \$1 million.

(B) Under the Strategic Alliance Agreement (the "Agreement") with Gillette, if MTI Micro sells fuel refills in the target market after its exclusivity obligations have expired, then MTI Micro will be required to pay Gillette royalties as defined in the Agreement. The Agreement is subject to confidential treatment as filed with the SEC.

### **Off-Balance Sheet Arrangements**

Pursuant to additional investment rights, Fletcher has the right, but not the obligation, to purchase, in a single purchase or multiple purchases, up to an additional \$20 million of our common stock at any time prior to December 31, 2006 at a price per share equal to \$6.34, which date and price may be extended and adjusted, respectively, in certain circumstances.

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

We develop products in the United States and sell them worldwide. As a result, our financial results could be affected by factors such as changes in foreign exchange rates or weak economic conditions in foreign markets. Since our sales are currently priced in U.S. dollars and are translated to local currency amounts, a strengthening of the dollar could make our products less competitive in foreign markets. Interest income is sensitive to changes in the general level of U.S. interest rates, particularly since our investments are in cash equivalents. Based on the nature and current levels of our cash equivalents, however, we have concluded that there is no material market risk exposure.

As a result of holding securities available for sale, the Company is exposed to fluctuations in market value. The Company recognizes changes in market value through the balance sheet, however if an other than temporary market decline were to occur, it could have a material impact on the Company's operating results.

The Company's issued derivatives consist of warrants and rights to purchase shares of the Company's common stock and Plug Power common stock owned by the Company. The fair value of the embedded derivative for the right to purchase Plug Power common stock is recorded in the financial statement line titled "Derivative liability." This derivative is valued quarterly using the Black Scholes Option-Pricing Model. The Company's held derivatives consist of warrants to purchase SatCon common stock. These held derivatives expired on January 31, 2004. The fair value of the warrants to purchase SatCon common stock is based on estimates using the Black Scholes Option-Pricing Model. The Company recognizes changes in fair value through the operating statement line titled "Gain (loss) on derivatives." The Company does not use derivative financial instruments for speculative or trading purposes.

Market risk represents the risk of changes in value of a financial instrument caused by fluctuations in interest rates and equity prices. The Company has performed a sensitivity analysis on its investments in Plug Power and its derivative financial instrument (Plug Power Investment Right). The sensitivity analysis presents the hypothetical change in fair value of the Company's financial investments as of the balance sheet date. Market risk is estimated as the potential change in fair value resulting from an immediate hypothetical one-percentage point parallel shift in the yield curve. The fair values of the Company's holdings in securities available for sale have been based on quoted market prices and its derivative financial instruments based on estimates using valuation techniques.

The fair market and estimated values of the Company's investments in Plug Power and derivatives and the calculated impact of a market price decrease of ten percent, is as follows:

(Dollars in thousands)

<u>Balance at</u>	<u>Holdings/ Derivatives</u>	<u>Estimated Fair Market Value</u>	<u>Ten Percent Market Decrease</u>
December 31, 2004	Plug Power	\$ 34,175	\$ 3,418
	Derivative	\$ 1,125	\$ 113
December 31, 2003	Plug Power	\$ 44,031	\$ 4,403
	Derivative	\$ -	\$ -

## **New Accounting Pronouncements**

### ***Effect of Recent Accounting Pronouncements***

In January 2003, the Financial Accounting Standards Board ("FASB") issued Interpretation No. 46, *Consolidation of Variable Interest Entities* ("FIN 46") which was amended by FIN 46R issued in December 2003. FIN 46 addresses consolidation by business enterprises of variable interest entities ("VIE's") that either: (1) do not have sufficient equity investment at risk to permit the entity to finance its activities without additional subordinated financial support or (2) for which the equity investors lack an essential characteristic of a controlling financial interest. FIN 46 requires consolidation of VIE's for which MTI is the primary beneficiary and disclosure of a significant interest in a VIE for which MTI is not the primary beneficiary. As a result of our review, no entities were identified requiring disclosure or consolidation under FIN 46.

In November 2004, the FASB issued SFAS No. 151, *Inventory Costs—an amendment of ARB No. 43, Chapter 4* ("FAS 151"), which is the result of its efforts to converge U.S. accounting standards for inventories with International Accounting Standards. SFAS No. 151 requires idle facility expenses, freight, handling costs and wasted material (spoilage) costs to be recognized as current-period charges. It also requires that allocation of fixed production overheads to the costs of conversion be based on the normal capacity of the production facilities. SFAS No. 151 will be effective for inventory costs incurred during fiscal years beginning after June 15, 2005. The Company is in the process of evaluating the impact of this standard on its consolidated financial statements.

In December 2004, the FASB issued SFAS No. 123 (Revised 2004) *Share-Based Payment* ("SFAS No. 123R"). SFAS No. 123R addresses all forms of share-based payment ("SBP") awards, including shares issued under employee stock purchase plans, stock options, restricted stock and stock appreciation rights. SFAS No. 123R will require the Company to expense SBP awards with compensation cost for SBP transactions measured at fair value. The FASB originally stated

a preference for a lattice model because it believed that a lattice model more fully captures the unique characteristics of employee stock options in the estimate of fair value, as compared to the Black-Scholes model which the Company currently uses for its footnote disclosure. The FASB decided to remove its explicit preference for a lattice model and not require a single valuation methodology. SFAS No. 123R requires the Company to adopt the new accounting provisions beginning in its third quarter of 2005. The Company has not yet determined the impact of applying the various provisions of SFAS No. 123R. The unvested value of SBP awards to be amortized into the operating statement is approximately \$ 5.7 million as of December 31, 2004.

In December 2004, the FASB issued SFAS No. 153, *Exchanges of Non-monetary Assets, an amendment of APB Opinion No. 29*. SFAS No. 153 addresses the measurement of exchanges of non-monetary assets and redefines the scope of transactions that should be measured based on the fair value of the assets exchanged. SFAS No. 153 is effective for non-monetary asset exchanges beginning in our second quarter of fiscal 2006. The Company is in the process of evaluating the impact of this standard on its consolidated financial statements.

## **ITEM 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

The financial statements filed herewith are set forth on the Index to Consolidated Financial Statements on Page F-1 of the separate financial section, which follows page 66 of this report and are incorporated herein by reference.

### ***Selected Quarterly Financial Data***

*(Unaudited and in 000's except per share amounts)*

	1st	2nd	3rd	4th
<b><u>2004</u></b>				
Product revenue	\$ 1,579	\$ 1,231	\$ 1,642	\$3,078
Funded research and development revenue	388	191	175	286
Gross profit - product revenue	932	608	956	2,157
Gross loss – funded research and development	(766)	(350)	(706)	(1,178)
Net (loss) income from continuing operations	(242)	(1,363)	(3,393)	807

#### **(Loss) Earnings per Share (Basic and Diluted):**

Net (loss) earnings	(.01)	(.05)	(.12)	.03
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#### **2003**

Product revenue	\$ 1,283	\$ 1,423	\$ 1,598	\$1,243
Funded research and development revenue	522	590	310	889
Gross profit - product revenue	728	865	843	729
Gross loss – funded research and development	(298)	(213)	(569)	(372)
Loss from continuing operations	(63)	(399)	(923)	(1,033)
Income from discontinued operations	-	13	-	-
Net (loss) earnings	(63)	(386)	923	(1,033)

#### **(Loss) Earnings per Share (Basic and Diluted):**

(Loss) income from continuing operations	(.00)	(.01)	.03	(.04)
Income from discontinued operations	-	-	-	-
Net (loss) earnings	(.00)	(.01)	.03	(.04)

## **ITEM 9: CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

## **ITEM 9A: CONTROLS AND PROCEDURES**

### *(a) Evaluation of Disclosure Controls and Procedures*

**Evaluation of Disclosure Controls and Procedures.** The Company's management, under the supervision of and with the participation of the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures, as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of the end of the period covered by this report. Based on such evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, the Company's disclosure controls and procedures are effective and are reasonably designed to ensure that all material information relating to the Company required to be included in the Company's reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure in accordance with Exchange Act Rule 13a-15(e).

**Management's Report on Internal Control Over Financial Reporting.** The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as that term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of the Company's management, including the principal executive officer and principal financial officer, the Company is in the process of conducting an evaluation of its internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

The Company's evaluation of its internal control over financial reporting has not yet been completed. In connection with this process, the Company has identified certain significant deficiencies that have been or are being remediated. There can be no assurance that as a result of the ongoing evaluation of internal control over financial reporting, additional deficiencies will not be identified or that any deficiencies identified, either alone or in combination with others, will not be considered a material weakness.

Pursuant to Securities and Exchange Commission Release No. 34-50754, which, subject to certain conditions, provides up to 45 additional days beyond the due date of this Form 10-K for the filing of management's annual report on internal control over financial reporting required by Item 308(a) of Regulation S-K, and the related attestation report of the independent registered public accounting firm, as required by Item 308(b) of Regulation S-K, management's report on internal control over financial reporting and the associated report on the audit of management's assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2004, are not filed herein and are expected to be filed no later than May 2, 2005.

**Changes in Internal Control Over Financial Reporting.** There have not been any changes in the Company's internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act during the Company's fiscal quarter ended December 31, 2004 that have materially affected, or are reasonable likely to materially affect, the Company's internal control over financial reporting.

**Limitations on the Effectiveness of Controls.** The Company's management, including the Chief Executive Officer and Chief Financial Officer, does not expect that the Company's disclosure controls or the Company's internal control over financial reporting will prevent all errors and all fraud.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the

transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Further, the design of disclosure controls and internal control over financial reporting must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected.

#### *(b) Changes in Internal Controls*

During the course of management's evaluation of internal controls, several potential deficiencies, in addition to the ones noted above, were remediated with sufficient time before year-end to enable management to reliably test the remediation.

Beyond these control enhancements, there were no changes in the Company's internal controls over financial reporting during the most recent fiscal period that materially affected, or are reasonably likely to materially affect, the Company's internal controls over financial reporting.

#### *(c) Sarbanes-Oxley Section 404 Compliance Deadline*

Section 404 of the Sarbanes-Oxley Act of 2002 ("Section 404") requires the Company to include an internal control report from management in its Annual Report on Form 10-K for the year ended December 31, 2004 and in subsequent Annual Reports thereafter. The internal control report must include the following: (1) a statement of management's responsibility for establishing and maintaining adequate internal control over financial reporting, (2) a statement identifying the framework used by management to conduct the required evaluation of the effectiveness of the Company's internal control over financial reporting, (3) management's assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2004, including a statement as to whether or not internal control over financial reporting is effective, and (4) a statement that the Company's independent auditors have issued an attestation report on management's assessment of internal control over financial reporting.

Under the SEC's Exemptive Order #34-50754, the report is due from management within 45 days after its Form 10-K filing deadline for the year ended December 31, 2004 and concurrent with Annual Reports for subsequent years.

It should be noted that the current filing timeframe is an extension of time, compared to the initially promulgated deadline of concurrent issuance of the Section 404 report with the Form 10-K. This extension was offered to companies with market value of outstanding common equity held by non-affiliates under \$700 million as of June 30, 2004. The Company is eligible for the deadline extension, and is availing itself of the extension.

It is doing so in order to complete testing and assessment, both of which have proved to be a time and resource-intensive task, requiring the use of both internal staff and outside consultants to identify potential design gaps and test operating effectiveness of controls.

As the Exemptive Order indicates, the deadline extension will enable the Company to have additional time to ensure the report on internal controls is complete and accurate. The deadline extension was also necessary to permit the outside auditors sufficient time to audit management's assessment and produce their own opinion on the effectiveness of the Company's internal controls over financial reporting.

The Company expects that the assessment and validation process will be complete before the reporting deadline of May 2, 2005, thereby enabling the Company to conclude, on a timely basis, on the adequacy of the design and function of its internal controls over financial reporting.

*(d) Sarbanes-Oxley Section 404 Compliance Responsibility*

Management acknowledges its responsibility for establishing and maintaining internal controls over financial reporting and seeks to continually improve those controls.

In this regard, the Company has dedicated internal resources and adopted and implemented a detailed work plan to: (i) assess and document the adequacy of internal control over financial reporting; (ii) take steps to improve control processes where required; (iii) validate through testing that controls are functioning as documented; and (iv) implement a continuous reporting and improvement process for internal control over financial reporting. The Company believes its process for documenting, evaluating and monitoring its internal control over financial reporting is consistent with the objectives of Section 404 of the Act.

As noted above, the Company's documentation and testing to date have identified certain gaps and deficiencies in the documentation, design and effectiveness of internal controls over financial reporting that the Company has taken action to remediate. Although the Company expects to have completed, before the extended deadline, all necessary testing and conclude on the effectiveness of internal controls over financial reporting, it cannot forecast what the conclusion will be in its entirety. Therefore, it is possible that additional conditions requiring disclosure could be found between the Form 10-K filing date and the Section 404 report issuance date.

As a result, given the risks inherent in the design and operation of internal controls over financial reporting, the Company can provide no further assurance as to its or its independent auditor's conclusions at December 31, 2004 with respect to the effectiveness of its internal controls over financial reporting, other than to assess the severity of the deficiencies noted to date, and indicate that it expects to conclude the assessment on a timely basis.

It should be noted that any system of internal controls, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the internal control system are met. In addition, the design of any internal control system is based in part upon certain assumptions about the likelihood of future events. Because of these and other inherent limitations of internal control systems, there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote.

**ITEM 9B: OTHER INFORMATION**

None.

### PART III

#### ITEM 10: DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The executive officers of the registrant (all of whom serve at the pleasure of the Board of Directors), their ages, and the position or office held by each, are as follows:

<u>Position or Office</u>	<u>Name</u>	<u>Age</u>
Chief Executive Officer and Director	Steven N. Fischer	61
President of MTI Government Systems and Director	Dale W. Church	65
Vice President, Chief Financial Officer and Secretary	Cynthia A. Scheuer	43
Chief Executive Officer, MTI MicroFuel Cells Inc.	Dr. William P. Acker	43
Chief Technology Officer, MTI MicroFuel Cells Inc.	Dr. Shimshon Gottesfeld	63
President and Chief Operating Officer, MTI MicroFuel Cells Inc.	Alan J. Soucy	49
Vice President and General Manager, MTI Instruments, Inc.	Denis P. Chaves	64

**Mr. Fischer**, a Director since 2003, became Chairman and Chief Executive Officer effective September 1, 2004. Mr. Fischer is also a Director on the MTI Micro Board of Directors. Mr. Fischer was Chief Executive Officer of New York-based professional services firm UHY Advisors NY, Inc., formerly Urbach Kahn and Werlin Advisors Inc., and UKW P.C., a certified public accounting firm, from 1985 to December 31, 2001 and Chairman through July 31, 2004. Mr. Fischer joined Urbach Kahn and Werlin P.C. in 1971. Mr. Fischer holds a J.D. degree from New York University, a B.B.A. degree from the City College of New York and is a Certified Public Accountant.

**Mr. Church**, a Director since 1997, became President of MTI Government Systems on September 1, 2004. Prior to that, Mr. Church was Chief Executive Officer and Chairman of the Board from October 2002 through September 2004. Mr. Church is also a Director of the Company and Chairman of the Board of MTI Micro. He has been the Chief Executive Officer of Ventures & Solutions LLC (a consulting firm) since 1996 and the Chairman and CEO of Intelligent Inspection Corporation from 1999 to March 2003, and, prior to that time, was a partner in the law firm of McDermott, Will & Emery from 1993 to 1997. He served as General Counsel to the American Electronics Association from 1994 to 1998. Mr. Church has practiced law in private practice, government, and corporate environments for over 30 years with specialties in U.S. and international government contracting, developing companies, mergers and acquisitions and joint ventures. His other previous experience includes working for the U.S. Government's Central Intelligence Agency and Department of Defense and as corporate counsel to establish several companies in the Silicon Valley of California. He is a Trustee of the National Security Industrial Association and is a director of various private corporations.

**Ms. Scheuer** was appointed Vice President and Chief Financial Officer of the Company in November 1997. Ms. Scheuer was elected Secretary on March 10, 2005. Prior to joining the Company, she was a Senior Business Assurance Manager at PricewaterhouseCoopers LLP, where she was employed from 1983 to 1997. From 1989 to 1997, she was a Senior Business Assurance Manager responsible for the planning and delivery of audit and financial consulting services to a diverse group of clients in manufacturing, high technology, retailing and government.

**Dr. Acker** became Chief Executive Officer of MTI Micro on December 10, 2004 and was President and Chief Executive Officer of MTI Micro from its founding in 2001 until December 9, 2004. Dr. Acker also served as President of the Company from June 2000 to October 22, 2002 when he left this position to devote his full attention to MTI Micro. From 1997 to June 2000, Dr. Acker was Vice President of Technology and Product Development at Plug Power Inc., leading the development of the world's first residential PEM fuel cell system. Before his tenure at Plug Power, Dr. Acker joined Texaco in 1990 and served in numerous management positions including Global Manager for Engineering and Product Testing from 1996 to 1997, where he was responsible for the development of energy products and was involved in the formation of Texaco's strategic business direction.

**Dr. Gottesfeld** has been Vice President and Chief Technology Officer of MTI Micro since December 2000. Prior to this appointment, Dr. Gottesfeld led the Fuel Cell Research Program at The Los Alamos National Laboratory ("LANL") for more than 15 years and had earlier affiliations with Brookhaven and Bell Laboratories. Dr. Gottesfeld's work has been in electrochemistry, electrocatalysis and electrochemical power sources, a field in which he holds patents and has published extensively. He has served as an officer and chairman of the Physical Electrochemistry Division of the Electrochemical Society, and is a Fellow of the Society. He is also a Laboratory Fellow at LANL. Dr. Gottesfeld received his Ph.D. from the Technion, Israel Institute of Technology.

**Mr. Soucy** became President of MTI Micro on December 10, 2004, prior to that he was Chief Operating Officer of MTI Micro from August 2002 through December 9, 2004. From 1999-2002, Mr. Soucy served as Vice President of worldwide sales and marketing at Tripath Technology, Inc., a fabless semiconductor supplier for consumer electronics and broadband communications customers. His background also includes several years as general manager of Philips Mobile Computing Group, the portable digital products division of Philips Electronics, where he helped to establish Philips as a leading supplier of mobile products based on Microsoft's Windows CE operating system.

**Mr. Chaves** has been Vice President and General Manager of MTI Instruments since March 2000. He was Vice President and General Manager of the Company's Advanced Products Division from 1987 to March 2000, and Vice President and General Manager of the Company's L.A.B Division from January 1994 until it was sold in September 1997. Previously, he served as Manager of Corporate Marketing for the Company from 1981 to 1987.

## **TERMS OF DIRECTORS**

Certain information regarding our current Board of Directors is set forth below. The Compensation, Nominating and Governance Committee of the Board of Directors will be meeting to consider and finalize the nominees to the Board of Directors to serve three-year terms, expiring in 2008. Dennis O'Connor and Thomas Marusak are serving terms expiring in 2005. Dale Church, Edward Dohring and William Phelan (named to the Board on December 16, 2004) are beginning the third year of a three-year term, expiring 2006. Steven Fischer, Dr. Walter Robb and Dr. Beno Sternlicht are beginning the second year of three-year terms, expiring in 2006.

## **CERTAIN INFORMATION REGARDING DIRECTORS**

**Mr. Church**, 65, a Director since 1997, became President of MTI Government Systems on September 1, 2004. Prior to that, Mr. Church was Chief Executive Officer and Chairman of the Board from October 2002 through September 2004. Mr. Church is also a Director of the Company and Chairman of the Board of MTI Micro. He has been the Chief Executive Officer of Ventures & Solutions LLC (a consulting firm) since 1996 and the Chairman and CEO of Intelligent Inspection Corporation from 1999 to March 2003, and, prior to that time, was a partner in the law firm of McDermott, Will & Emery from 1993 to 1997. He served as General Counsel to the American Electronics Association from 1994 to 1998. Mr. Church has practiced law in private practice, government, and corporate environments for over 30 years with specialties in U.S. and international government contracting, developing companies, mergers and acquisitions and joint ventures. His other previous experience includes working for the U.S. Government's Central Intelligence Agency and Department of Defense and as corporate counsel to establish several companies in the Silicon Valley of California. He is a Trustee of the National Security Industrial Association and is a director of various private corporations.

**Mr. Dohring**, 71, a Director since 1997, served as President of MTI Instruments, Inc. from April 1, 2000 to April 5, 2002. Mr. Dohring retired on December 31, 1998 from Silicon Valley Group, Inc. ("SVG") where he had been Vice President since July 1992 and President of its SVG Lithography Systems, Inc. ("SVGL") unit since October 1994. From June 1992 to October 1994, he served as President of SVG's Track Systems Division. He joined SVG from Rochester Instrument Systems, Inc., where he served as President from April 1989 to June 1992. He also held management positions with General Signal, CVC Products, Bendix, Bell & Howell and Veeco Instruments. He is a member of the Board of Directors of Tegal Corporation, and has served as a director of Semiconductor Equipment & Materials International (SEMI) and International Disc Equipment Manufacturers Association (IDEMA) and a Trustee of the SUNY Maritime Foundation Board.

**Mr. Fischer**, 61, a Director since 2003, became Chairman and Chief Executive Officer effective September 1, 2004. Mr. Fischer previously served as Chairman of the Audit Committee from September 12, 2003 through July 29, 2004. Since March 4, 2004, Mr. Fischer has also been a member of the MTI Micro Board of Directors. Mr. Fischer was Chief Executive Officer of New York-based professional services firm UHY Advisors NY, Inc., formerly Urbach Kahn and Werlin Advisors Inc., and UKW P.C., a certified public accounting firm, from 1985 to December 31, 2001 and Chairman through July 31, 2004. Mr. Fischer joined Urbach Kahn and Werlin P.C. in 1971. Mr. Fischer holds a J.D. degree from New York University, a B.B.A. degree from the City College of New York and is a Certified Public Accountant.

**Mr. Marusak**, 54, was appointed to MTI's Board of Directors on December 16, 2004. Since 1986, Mr. Marusak has been President of Comfortex Corporation, an internationally recognized manufacturer of window blinds and specialty shades and is the current Chairman of New York's Capital Region Center for Economic Growth. In 1997, he was appointed by Governor George Pataki, and then confirmed by the New York Senate as a Director for the New York State Energy and Development Authority (NYSERDA) and continues to serve on its board. Mr. Marusak has also represented the interests of small/medium size manufacturing businesses of New York as a delegate at the White House. He is currently a member of the Advisory Board of Directors for Key Bank of New York, Dynabil Industries Inc. and Clough Harbour Associates Technology Services Company of Albany. Mr. Marusak received a B.S. in Engineering from Pennsylvania State University, and an M.S. in Engineering from Stanford University.

**Mr. O'Connor**, 64, a Director since 1993, is a registered patent attorney, and from 1984 until his retirement in June 2000, was the Director of New Products and Technology for Masco Corporation, a diversified manufacturer of building, home improvement, and other specialty products for the home and family.

**Mr. Phelan, CPA**, 48, was appointed to MTI's Board of Directors and named Chairman of MTI's Audit Committee on December 16, 2004. Mr. Phelan was a founder and served as Chief Executive Officer of OneMade, Inc. from May 1999 to May 2004. OneMade, Inc. was recently sold to America Online (AOL). In addition, Mr. Phelan served as a member of the Board of Directors of Florists' Transworld Delivery (FTD), the largest floral services organization in the world, where he was instrumental in reorganizing the company, providing both strategic direction and operational oversight. He has also held numerous executive positions at Fleet Equity Partners, Cowen & Company, and UHY Advisors Inc., formerly Urbach Kahn & Werlin, PC. Mr. Phelan has a B.A. in Accounting and Finance from Siena College, and an M.S. in Taxation from City College of New York.

**Dr. Robb**, 76, a Director since 1997, served as Chairman of the Audit Committee from July 29, 2004 to December 16, 2004. Dr. Robb has been a management consultant and President of Vantage Management, Inc., since 1993. Prior to that, Dr. Robb was with General Electric Company ("GE") in a number of executive positions. He was Senior Vice President for Corporate Research and Development from 1986 until his retirement on December 31, 1992, directing the GE Research and Development Center, one of the world's largest and most diversified industrial laboratories, and serving on GE's Corporate Executive Council. He served on the Board of Directors of Plug Power Inc., from 1997 through October 9, 2002, and is a Director of Celgene Corp., an integrated biopharmaceutical company, and a number of privately owned companies.

**Dr. Sternlicht**, 76, a Director since 1996 and a co-founder of the Company, is also a Director of MTI MicroFuel Cells Inc. and a Director of MTI Instruments, Inc., has been President of Benjosh Management Assoc., a management firm in New York City, since 1976; President of AMEAST Corporation, a consulting and trading corporation, since 1974; and President of Arben International, LLC, a distribution and manufacturing firm for products for the furniture and home décor industry, with offices in Russia, China and the United States, since 1994. He has also served as Chairman of the Board of Comfortex Corp., a window shade developer and manufacturer, from 1992 until its sale to Hunter Douglas in 1999, and currently serves as shareholder representative to the board of directors of Hunter Douglas. Dr. Sternlicht was a Director of the Company from 1961 to 1992, and prior to 1985 held the position of Technical Director and Board Chairman. Dr. Sternlicht was one of the founders of VITA (Volunteers in Technical Assistance), and has served on various advisory committees of NASA, the Department of Energy and the Commerce Department under Presidents Carter, Reagan and Bush, and served as an Advisor on Energy to the People's Republic of China, Israel and India.

## **Audit Committee**

The Audit Committee currently consists of Mr. Phelan (Chairman), Dr. Robb and Mr. O'Connor. The Board of Directors has designated Mr. Phelan as an "Audit Committee Financial Expert" under the Securities Exchange Act of 1934 and NASD standards.

## **SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires the Company's directors, executive officers and holders of more than 10% of the Company's common stock to file with the SEC initial reports of ownership of the Company's common stock and other equity securities on a Form 3 and reports of changes in such ownership on a Form 4 or Form 5. Officers, directors and 10% shareholders are required by SEC regulations to furnish the Company with copies of all Section 16(a) forms they file. To the Company's knowledge, based solely on a review of the Company's records and written representations by the persons required to file such reports, all filing requirements of Section 16(a) were satisfied with respect to the Company's most recent calendar year.

## **Code of Ethics**

The Company has adopted a Code of Ethics for employees, officers and directors. The Code of Ethics was filed on March 10, 2004 as Exhibit 14.1 to the Company's Form 10-K for the year ended December 31, 2003. A copy may be obtained at no charge by written request to the attention of the Secretary of the Company at 431 New Karner Road, Albany, New York 12205. A copy of the Code of Ethics is also available on the Company's website at [www.mechtech.com](http://www.mechtech.com).

## **COMPENSATION, NOMINATING AND GOVERNANCE COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION**

In 2004, the Compensation, Nominating and Governance Committee consisted of Drs. Robb and Sternlicht and Mr. O'Connor, none of whom are employees of the Company. For information concerning the committee members' relationship to the Company see "Securities Ownership of Certain Beneficial Owners" and "Certain Relationships and Related Transactions."

## **ITEM 11: EXECUTIVE COMPENSATION**

### **Summary Compensation Table**

The following table sets forth information concerning the annual and long-term compensation for services rendered to the Company for the years ended December 31, 2004, 2003 and 2002, of those persons who were at December 31, 2004 (i) the Chief Executive Officer of the Company and (ii) the four most highly compensated executive officers (collectively, the "Named Employees"):

SUMMARY COMPENSATION TABLE						
NAME AND PRINCIPAL POSITION	TWELVE MONTH FISCAL PERIOD ENDED	ANNUAL COMPENSATION		LONG-TERM COMPENSATION		ALL OTHER COMPENSATION
		SALARY	BONUS	RESTRICTED STOCK AWARD	SECURITIES UNDERLYING OPTIONS (#)	
Steven N. Fischer, Chief Executive Officer	12/31/2004 <sup>1</sup>	\$ 62,308	\$ -	\$ -	229,167 <sup>6</sup>	\$ -
Dale W. Church, President Government Systems	12/31/2004	\$244,616	\$ -	\$ -	135,000 <sup>8</sup>	\$ 9,600 <sup>5</sup>
	12/31/2003	\$240,000	\$ -	\$ -	124,667 <sup>2</sup>	\$ 6,240 <sup>5</sup>
	12/31/2002 <sup>1</sup>	\$ 23,077	\$ -	\$50,000 <sup>4</sup>	70,000 <sup>3</sup>	\$ -
Dr. William P. Acker, President and CEO MTI MicroFuel Cells Inc.	12/31/2004	\$241,347	\$ -	\$ -	400,242 <sup>7</sup>	\$ 8,048 <sup>5</sup>
	12/31/2003	\$200,000	\$ -	\$ -	166,667 <sup>7</sup>	\$ 8,000 <sup>5</sup>
	12/31/2002	\$193,750	\$ -	\$ -	83,334 <sup>7</sup>	\$ 6,827 <sup>5</sup>
Dr. Shimshon Gottesfeld, Vice President of R&D and Chief Technology Officer MTI MicroFuel Cells Inc.	12/31/2004	\$241,885	\$ -	\$ -	113,977 <sup>7</sup>	\$ 8,906 <sup>5</sup>
	12/31/2003	\$180,000	\$ 20,000	\$ -	100,001 <sup>7</sup>	\$ 5,400 <sup>5</sup>
	12/31/2002	\$180,000	\$ 40,000	\$ -	16,667 <sup>7</sup>	\$ 7,772 <sup>9</sup>
Alan J. Soucy Chief Operating Officer MTI MicroFuel Cells Inc.	12/31/2003	\$296,539	\$ 50,000	\$ -	100,001 <sup>7</sup>	\$ 6,354 <sup>5</sup>
	12/31/2002 <sup>1</sup>	\$121,154	\$ -	\$ -	141,667 <sup>10</sup>	\$ -

<sup>1</sup> Represents compensation for a portion of the fiscal year based upon employment dates:

Mr. Fischer joined the Company as Chairman and Chief Executive Officer on September 1, 2004.

Mr. Church joined the Company as Chairman and Chief Executive Officer on October 22, 2002.

Mr. Soucy joined MTI MicroFuel Cells Inc. as Chief Operating Officer on August 5, 2002.

<sup>2</sup> Represents 53,000 options to purchase shares of the Company's common stock and 71,667 options to purchase shares of common stock of MTI MicroFuel Cells Inc., a subsidiary of the Company.

<sup>3</sup> Represents 45,000 options to purchase shares of the Company's common stock awarded under the Directors' Stock Option Program for services as a Director and 25,000 options to purchase shares of common stock of MTI MicroFuel Cells Inc., a subsidiary of the Company.

<sup>4</sup> Represents 50,000 shares of restricted common stock of the Company valued at \$1 per share based on the market price on the date of issue. The restrictions lapsed on October 22, 2003.

<sup>5</sup> Represents Company matching contributions of \$1.00 for each \$1.00 contributed by the named individual to the Company's 401(k) Savings Plan up to a maximum of 4% of base salary.

<sup>6</sup> Represents 182,500 options to purchase shares of the Company's common stock and 46,667 options to purchase shares of common stock of MTI MicroFuel Cells Inc., a subsidiary of the Company.

<sup>7</sup> Represents options to purchase shares of common stock of MTI MicroFuel Cells Inc., a subsidiary of the Company.

<sup>8</sup> Represents options to purchase shares of the Company's common stock.

<sup>9</sup> Represents Company matching contribution of \$4,846 to the 401(k) Savings Plan and \$2,926 in moving expenses reimbursement.

<sup>10</sup> Represents 50,000 options to purchase shares of the Company's common stock and 91,667 options to purchase shares of common stock of MTI MicroFuel Cells Inc., a subsidiary of the Company.

### Option Grants Table

The following table sets forth information concerning individual grants of stock options to purchase the Company's common stock made to the Named Employees during 2004:

OPTION GRANTS IN 2004 TO PURCHASE THE COMPANY'S COMMON STOCK						
Individual Grants						
Name	Number of Shares Underlying Options Granted	Percentage Of Total Options Granted to Employees	Exercise Price (per share)	Expiration Date	Potential Realizable Value at Assumed Annual Rates of Stock Price Appreciation for Option Term <sup>1</sup>	
					5%(\$)	10%(\$)
Steven N. Fischer	25,000 <sup>3</sup>	2.84%	\$6.17	06/24/2014	\$ 97,007	\$ 245,835
	7,500 <sup>3</sup>	0.85%	\$6.17	06/24/2014	\$ 29,102	\$ 73,750
	150,000 <sup>3</sup>	17.05%	\$4.00	07/29/2014	\$ 377,337	\$ 956,245
Dale W. Church	15,000 <sup>3</sup>	1.70%	\$6.17	06/23/2014	\$ 58,204	\$ 147,501
	120,000 <sup>5</sup>	13.64%	\$6.17	06/23/2014	\$ 465,634	\$ 1,180,007
Dr. William P. Acker	-	-	\$ -	-	\$ -	\$ -
Dr. Shimshon Gottesfeld	-	-	\$ -	-	\$ -	\$ -
Alan J. Soucy	-	-	\$ -	-	\$ -	\$ -

<sup>1</sup> Potential realizable value is based on the assumption that the common stock appreciates at the annual rate shown, compounded annually, from the date of grant until expiration of the 10-year term. These numbers are calculated based upon SEC requirements and do not reflect the Company's projection or estimate of future stock price growth. Potential realizable values are computed by multiplying the number of shares of common stock subject to a given option by the fair market value on the date of grant, assuming that the aggregate stock value derived from that calculation compounds at the annual 5% or 10% rate shown in the table for the entire 10-year term of the option and subtracting from that the aggregate option exercise price.

<sup>2</sup> Options vest on a two-year vesting schedule, fifty percent vesting on each anniversary of the date of grant.

<sup>3</sup> 100% exercisable at grant.

<sup>4</sup> Options vest on a four-year vesting schedule, twenty-five percent vesting on each anniversary of the date of grant.

<sup>5</sup> Options vest on a two-year vesting schedule, fifty percent vesting on each anniversary of the date of grant.

MTI MicroFuel Cells Inc., a subsidiary of the Company, also grants options to purchase shares of its common stock to officers, directors and employees of the Company. The following table sets forth information concerning individual grants of stock options to purchase MTI MicroFuel Cells Inc. common stock made to the Named Employees during 2004:

OPTION GRANTS IN 2004 TO PURCHASE MTI MICROFUEL CELLS INC. COMMON STOCK						
Individual Grants						
Name	Number of Shares Underlying Options Granted	Percentage of Total Options Granted to Employees	Exercise Price (per share)	Expiration Date	Potential Realizable Value at Assumed Annual Rates of Stock Price Appreciation for Option Term <sup>1</sup>	
					5%(\$)	10%(\$)
Steven N. Fischer	46,667	3.09%	\$2.76	03/04/2014	\$ 80,904	\$ 205,026
Dale W. Church	-	-%	\$ -	-	\$ -	\$ -
Dr. William P. Acker	400,242	26.54%	\$2.39	12/10/2014	\$601,587	\$1,524,540
Dr. Shimshon Gottesfeld	41,667	2.76%	\$2.76	03/04/2014	\$ 72,236	\$ 183,059
	72,310	4.79%	\$2.39	12/10/2014	\$108,686	\$ 275,432
Alan J. Soucy	361,522	23.97%	\$2.39	12/10/2014	\$543,389	\$1,377,053

<sup>1</sup> Potential realizable value is based on the assumption that the common stock appreciates at the annual rate shown, compounded annually, from the date of grant until expiration of the 10-year term. These numbers are calculated based upon SEC requirements and do not reflect the Company's projection or estimate of future stock price growth. Potential realizable values are computed by multiplying the number of shares of common stock subject to a given option by the fair market value on the date of grant, assuming that the aggregate stock value derived from that calculation compounds at the annual 5% or 10% rate shown in the table for the entire 10-year term of the option and subtracting from that the aggregate option exercise price.

### AGGREGATED OPTION EXERCISES AND FISCAL YEAR-END OPTION VALUE TABLE

The following table sets forth certain information regarding stock options exercised during 2004 and held as of December 31, 2004 by the Named Employees of the Company.

#### AGGREGATED OPTION EXERCISES IN LAST FISCAL YEAR AND FISCAL YEAR-END OPTION VALUES - MTI

<u>Name</u>	<u>Shares Acquired On Exercise (#)</u>	<u>Value Realized (\$)(1)</u>	<u>Number of Securities Underlying Unexercised Options at Year End (#)</u>		<u>Value of Unexercised In-the-Money Options at Year End (\$)(2)</u>	
			<u>Exercisable</u>	<u>Unexercisable</u>	<u>Exercisable</u>	<u>Unexercisable</u>
Steven N. Fischer	10,000	\$26,020	199,500	-	\$372,313	\$ -
Dale W. Church	-	\$ -	243,000	135,000	\$905,592	\$ 63,585
Dr. William P. Acker	-	\$ -	275,000	-	\$327,400	\$ -
Dr. Shimshon Gottesfeld	-	\$ -	50,000	-	\$163,700	\$ -
Alan J. Soucy	-	\$ -	37,500	12,500	\$193,838	\$ 64,612

(1) Represents the difference between the exercise price and the fair value of the Company's common stock on the date of exercise.

(2) Value is based on the closing sale price of the Company's common stock on the Nasdaq National Market on December 31, 2004, less the option exercise price.

MTI MicroFuel Cells Inc., a subsidiary of the Company, also grants options to purchase shares of its common stock to officers, directors and employees of the Company. The following table sets forth certain information regarding stock options exercised during 2004 and held as of December 31, 2004 by the Named Employees of the Company. There is no public market for MTI MicroFuel Cells Inc. common stock.

#### AGGREGATED OPTION EXERCISES IN LAST FISCAL YEAR AND FISCAL YEAR-END OPTION VALUES – MTI MICROFUEL CELLS INC.

<u>Name</u>	<u>Shares Acquired On Exercise (#)</u>	<u>Value Realized (\$)(1)</u>	<u>Number of Securities Underlying Unexercised Options at Year End (#)</u>		<u>Value of Unexercised In-the-Money Options at Year End (\$)</u>	
			<u>Exercisable</u>	<u>Unexercisable</u>	<u>Exercisable</u>	<u>Unexercisable</u>
Steven N. Fischer	-	\$ -	-	46,667	\$ -	\$ -
Dale W. Church	-	\$ -	54,584	42,083	\$ -	\$ -
Dr. William P. Acker	-	\$ -	125,001	525,242	\$ -	\$ -
Dr. Shimshon Gottesfeld	-	\$ -	33,335	197,310	\$ -	\$ -
Alan J. Soucy	-	\$ -	93,751	459,440	\$ -	\$ -

(1) Represents the difference between the exercise price and the fair value of the Company's common stock on the date of exercise.

## **EMPLOYMENT AGREEMENTS**

Mr. Steven N. Fischer, Chief Executive Officer, has an employment agreement with the Company that provides a base salary of \$180,000. He will receive 100% of his base salary and benefits for six months if he is terminated without cause. This agreement continues unless modified.

Mr. Dale W. Church, President of Government Systems, has an employment agreement with the Company that provides a base salary of \$20,000 per month and expires on June 30, 2005. He will receive his base salary and benefits for six months if he is terminated at the end of his contract term.

Dr. William P. Acker, Chief Executive Officer and President of MTI MicroFuel Cells Inc. ("MTI Micro") has an employment agreement with MTI Micro that provides a base salary of \$250,000. He will also receive 100% of his base salary and benefits for one year, subject to reduction for any amounts earned in other employment, if he is terminated without cause. This agreement continues unless modified.

Dr. Shimshon Gottesfeld, Vice President of Research and Development and Chief Technology Officer of MTI Micro, has an employment agreement, effective March 4, 2004, for a 3 year term expiring on March 4, 2007. The agreement provides for a base salary of \$250,000 per year. He will also receive 100% of his base salary for 6 months if he is terminated without cause or if he leaves employment for certain reasons as defined in the agreement.

Mr. Alan J. Soucy, Chief Operating Officer of MTI Micro has an employment agreement with MTI Micro that provides a base salary of \$300,000 and an annual bonus based on performance as determined in the discretion of the CEO and Board of Directors of MTI Micro. He will also receive 100% of his base salary for 6 months, subject to reduction for any amounts earned in other employment, if he is terminated without cause. This agreement continues unless modified.

## **Director Compensation**

On December 16, 2004, the MTI Board changed its compensation for non-management directors, effective January 1, 2005, to provide that each non-management director will now receive a cash retainer \$16,000 per year and are reimbursed for reasonable travel and related expenses. This cash retainer will commence on January 1, 2005 and is paid quarterly. In addition, 1) non-management directors receive options to purchase 20,000 shares of the Company's common stock (reduced from 25,000 options), 2) the Chairman of the Audit Committee receives additional options to purchase 7,500 shares of the Company's common stock, 3) members of the Audit Committee each receive additional options to purchase 3,750 shares of the Company's common stock, 4) the Chairman of the Compensation, Nominating and Governance Committee receives additional options to purchase 5,000 shares of the Company's common stock, and 5) members of the Compensation, Nominating and Governance Committee each receive additional options to purchase 2,500 shares of the Company's common stock. All options are issued to directors on the date of the Annual Meeting and are priced based on the closing price of the Company's stock on the Nasdaq National Market System on the date of grant and are immediately vested.

## **ITEM 12: SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

The following table sets forth information regarding the beneficial ownership of Mechanical Technology Incorporated common stock as of February 28, 2005 for:

- all persons known by us to own beneficially 5% or more of the common stock;
- each of our directors;
- the executive officers listed in the Summary Compensation Table; and
- all such directors and executive officers as a group.

Shares Beneficially Owned<sup>1</sup>

<u>Name of Beneficial Owner</u>	<u>Number<sup>2</sup></u>	<u>Percent</u>
First Albany Companies Inc.	2,916,040	9.53%
Fletcher International, Ltd.	2,968,845 <sup>3</sup>	9.24
Dr. William P. Acker	325,000 <sup>4</sup>	1.05
Dale W. Church	425,014 <sup>5</sup>	1.38
Edward A. Dohring	268,689 <sup>6</sup>	*
Steven N. Fischer	209,500 <sup>7</sup>	*
Dr. Shimshon Gottesfeld	86,500 <sup>8</sup>	*
E. Dennis O'Connor	343,250 <sup>9</sup>	1.11
Dr. Walter L. Robb	309,300 <sup>10</sup>	1.00
Alan J. Soucy	37,500 <sup>11</sup>	*
Dr. Beno Sternlicht	848,531 <sup>12</sup>	2.76
All present directors and officers as a group (15 persons)	3,560,859 <sup>13</sup>	10.80

\*Percentage is less than 1.0% of the outstanding common stock.

<sup>1</sup> Unless otherwise indicated, each of the shareholders has sole voting and investment power with respect to the shares of common stock beneficially owned by the shareholder. First Albany Companies Inc. (NASDAQ: FAC) is a public company and its address is 677 Broadway, Albany, New York 12207. The address of Fletcher International, Ltd. is c/o A.S.&K. Services Ltd. Cedar House, 41 Cedar House, Hamilton HM EX, Bermuda. The address of all other listed shareholders is c/o Mechanical Technology Inc., 431 New Karner Road, Albany, New York 12205. This table does not include any beneficially owned shares of MTI MicroFuel Cells Inc., a subsidiary of the Company.

<sup>2</sup> The number of shares beneficially owned by each shareholder is determined under rules promulgated by the SEC and includes voting or investment power with respect to securities. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power and includes any shares as to which the individual or entity has the right to acquire beneficial ownership within 60 days after February 28, 2005, through the exercise of any warrant, stock option or other right. The inclusion in this schedule of such shares, however, does not constitute an admission that the named shareholder is a direct or indirect beneficial owner of such shares. The number of shares of common stock outstanding used in calculating the percentage for each listed person includes the shares of common stock underlying options held by such person, which are exercisable within 60 days of February 28, 2005, but excludes shares of common stock underlying options held by any other person. Percentage of beneficial ownership is based on 30,610,213 shares of common stock outstanding as of February 28, 2005.

<sup>3</sup> Represents 200,000 shares of common stock owned by Fletcher, 1,261,829 shares of common stock purchased by Fletcher in connection with the exercise of an investment right received in the 2004 Private Placement and 1,507,016 shares of common stock that Fletcher may acquire pursuant to the exercise of its additional investment rights acquired in connection with the 2004 Private Placement. Pursuant to a contractual limitation, Fletcher may not acquire any shares of common stock pursuant to exercises of additional investment rights without first providing us sixty-five days notice of such exercise if such exercise would result in Fletcher beneficially owning more than 9.25% of the total outstanding number of shares of our common stock. Includes shares held in one or more accounts managed by Fletcher Asset Management, Inc. ("FAM") for Fletcher. FAM is an investment adviser to Fletcher and is registered under Section 203 of the Investment Advisors Act of 1940, as amended. An investment advisory agreement between FAM and Fletcher gives FAM the authority to vote and dispose of the securities in these accounts. By reason of the provisions of Rule 13d-3 under the Securities Exchange Act of 1934, Fletcher and FAM may each beneficially own the securities registered under the registration statement of which this prospectus is a part. Additionally, by virtue of Alphonse Fletcher, Jr.'s position as chairman and chief executive officer of FAM, Mr. Fletcher may have the shared power to vote or direct the vote of, and the shared power to dispose or direct the disposition of, these securities. For these reasons, Mr. Fletcher may also be a beneficial owner of these securities.

<sup>4</sup> Includes options for 275,000 shares, which are exercisable as of February 28, 2005.

<sup>5</sup> Includes options for 258,000 shares, which are exercisable within 60 days of February 28, 2005 and 2,250 shares owned by Mr. Church's wife. Mr. Church disclaims beneficial ownership of such shares.

<sup>6</sup> Includes options for 240,000 shares, which are exercisable as of February 28, 2005.

<sup>7</sup> Includes options for 199,500 shares, which are exercisable as of February 28, 2005.

<sup>8</sup> Includes options for 50,000 shares, which are exercisable as of February 28, 2005 and 16,500 shares owned by Dr. Gottesfeld's wife. Dr. Gottesfeld disclaims beneficial ownership of such shares.

<sup>9</sup> Includes options for 201,750 shares, which are exercisable as of February 28, 2005.

<sup>10</sup> Includes options for 201,000 shares, which are exercisable as of February 28, 2005.

<sup>11</sup> Includes options for 37,500 shares, which are exercisable within 60 days of February 28, 2005.

<sup>12</sup> Includes options for 239,000 shares, which are exercisable as of February 28, 2005 and 200,970 shares held by Dr. Sternlicht's wife as custodian for their children. Dr. Sternlicht disclaims beneficial ownership of such shares.

<sup>13</sup> Includes options for 2,365,575 shares, which are exercisable within 60 days of February 28, 2005.

## Stock Option Plans

As of December 31, 2004, the Company has two stock option plans. See Note 13 to the Consolidated Financial Statements referred to in Item 8 for a description of these plans. The following table presents information regarding these plans:

Plan Category	Number of Securities To Be Issued Upon Exercise of Outstanding Options, Warrants, Rights <sup>(1)</sup>	Weighted Average Exercise Price of Outstanding Options, Warrants, Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
Equity compensation plans approved by security holders	3,752,063	\$4.06	2,632,901

<sup>(1)</sup>Under both the 1996 and 1999 plans, the securities available under the plans for issuance and issuable pursuant to exercises of outstanding options may be adjusted in the event of a change in outstanding stock by reason of stock dividend, stock splits, reverse stock splits, etc.

The 1996 plan also provides for increases to securities available by 10% of any increase in shares outstanding, excluding shares issued under option plans.

On December 22, 2003, the Company announced the completion of the first phase of its stock option exchange offer. A total of 757,000 options with an average exercise price of approximately \$19 per share were tendered by employees and then cancelled by the Company in exchange for the future issuance of options at a one-for-two ratio. New options totaling 341,000 were issued in the final phase of the exchange offer on June 23, 2004 at an exercise price of \$6.17 per share to employees and directors who were employed by the Company or served as directors of the Company from December 22, 2003, the acceptance date, through June 23, 2004.

## **ITEM 13: CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

Management believes transactions among related parties are as fair to the Company as obtainable from unaffiliated third parties.

On March 29, 2004, the Company acquired 4,762 shares of its common stock for \$25 thousand from its then CEO, Dale Church, in connection with a revised tax liability of Mr. Church resulting from the vesting of restricted stock in October 2003. The Company had previously acquired 15,724 shares in connection with the payment of Mr. Church's original tax liability as reported on October 28, 2003.

## **Item 14: PRINCIPAL ACCOUNTING FEES AND SERVICES**

### Accounting Fees

Aggregate fees for professional services rendered for the Company by PricewaterhouseCoopers for the years ended December 31, 2004 and 2003 are as follows<sup>(1)</sup>:

	Year Ended December 31, <u>2004</u>	Year Ended December 31, <u>2003</u>
Audit	\$220,115	\$125,110
Audit Related	5,625	8,600
Tax	29,500	43,450
All Other	<u>-</u>	<u>-</u>
Total	<u>\$255,240</u>	<u>\$177,160</u>

<sup>(1)</sup> The aggregate fees included in Audit are fees billed for the fiscal periods for the audit of the Company's annual financial statements and review of financial statements and statutory and regulatory filings or engagements. The aggregate fees

included in each of the other categories are fees billed in the fiscal periods.

The *Audit Fees* billed for the fiscal years ended December 31, 2004 and 2003, respectively, were for professional services rendered for the audits of the consolidated financial statements of the Company, reviews of quarterly consolidated financial statements, National Institute of Science and Technology contract audit, audit of the Company's 401(k) plan and its associated Form 11-K filing and consents and assistance with and review of documents filed with the Securities and Exchange Commission.

The *Audit Related Fees* billed during the fiscal years ended December 31, 2004 and 2003, respectively, were for assurance and related services related to consultations concerning financial accounting and reporting standards.

The *Tax Fees* billed during the fiscal years ended December 31, 2004 and 2003, respectively, were for services related to tax compliance, including the preparation of tax returns and claims for refund; and tax planning and tax advice, including assistance with and representation in tax audits and advice related to proposed transactions.

The Audit Committee has considered whether the provision of the non-audit services above is compatible with maintaining the auditors' independence, and has concluded that it is.

### **Audit Committee Pre-Approval Policies and Procedures**

Pursuant to Section 202(a) of the Sarbanes-Oxley Act, the Audit Committee has adopted the following policies and procedures under which frequently utilized audit and non-audit services are pre-approved by the Audit Committee and the authority to authorize the auditor to perform such services is delegated to a single committee member or an executive officer.

- A. Annual audit, quarterly review and annual tax return services shall be pre-approved upon review and acceptance of the tax and audit engagement letters submitted by the auditors to the Audit Committee.
- B. Additional audit and non-audit services related to the resolution of accounting issues or the adoption of new accounting standards, audits by tax authorities or reviews of public filings by the Securities and Exchange Commission must be pre-approved by the Audit Committee and the authority to authorize the auditor to perform such services is delegated to the Chairman of the Audit Committee for fees up to \$5,000, and for fees above \$5,000 entire Committee approval is required.
- C. Additional audit and non-audit services related to tax savings strategies, tax issues arising during the preparation of tax returns, tax estimates and tax code interpretations must be pre-approved by the Audit Committee and the authority to authorize the auditor to perform such services is delegated to the Chairman of the Audit Committee for fees up to \$5,000, and for fees above \$5,000 entire Committee approval is required.
- D. Additional audit and non-audit services related to the tax and accounting treatments of proposed business transactions must be pre-approved by the Audit Committee and the authority to authorize the auditor to perform such services is delegated to the Chairman of the Audit Committee for fees up to \$5,000, and for fees above \$5,000 entire Committee approval is required.
- E. Quarterly and annually, a detailed analysis of audit and non-audit services are to be provided to and reviewed with the Audit Committee.

All of the 2004 services described under the captions "Audit Fees," "Audit Related Fees," and "Tax Fees" were approved by the Audit Committee.

## PART IV

### **ITEM 15: EXHIBITS, FINANCIAL STATEMENT SCHEDULES**

(a) (1) The financial statements filed herewith are set forth on the Index to Consolidated Financial Statements on page F-1 of the separate financial section which accompanies this Report, which is incorporated herein by reference.

(a) (2) Schedule. The following consolidated financial statement schedule for the years ended December 31, 2004, 2003 and 2002 is included pursuant to Item 15(d):

Report of Independent Registered Public Accounting Firm on Financial Statements Schedule;  
Schedule II- Valuation and Qualifying Accounts.

All other financial statement schedules not listed have been omitted because they are either not required, not applicable, or the information has been included elsewhere in the consolidated financial statements or notes thereto.

(a) (3) Exhibits. The exhibits listed in the Exhibit Index immediately preceding the exhibits are filed as part of this Annual Report on Form 10-K.

The following exhibits are filed as part of this Report:

<u>Exhibit Number</u>	<u>Description</u>
3.1	Certificate of Incorporation of the registrant, as amended and restated and amended. (3)(8)(9)
3.2	By-Laws of the registrant, as restated. (3)
4.1	Certificate of Additional Investment Rights issued to Fletcher International, Ltd. (19)
10.1	Mechanical Technology Incorporated Restricted Stock Incentive Plan. (1)
10.14	Mechanical Technology Incorporated Stock Incentive Plan for its December 20, 1996 Special Meeting of Shareholders. (2)
10.21	Asset Purchase Agreement between Mechanical Technology and NYFM, Incorporated, dated as of March 31, 1998. (4)
10.30	Mechanical Technology Incorporated 1999 Employee Stock Incentive Plan. (5)
10.32	Stock Purchase Agreement, dated October 1, 1999, between the registrant, Ling Electronics, Inc., Ling Electronics, Ltd. and SatCon Technology Corporation. (6)
10.33	Securities Purchase Agreement, dated October 21, 1999, between the registrant and SatCon Technology Corporation. (6)
10.34	Mechanical Technology Incorporated Registration Rights Agreement, dated October 21, 1999, between the registrant and SatCon Technology Corporation. (6)
10.36	Mechanical Technology Incorporated Stock Purchase Warrant dated October 21, 1999. (6)
10.37	SatCon Technology Corporation Stock Purchase Warrant dated October 21, 1999. (6)

<u>Exhibit Number</u>	<u>Description</u>
10.38	Lease dated August 10, 1999 between Carl E. Touhey and Mechanical Technology, Inc. (6)
10.39	Registration Rights Agreement, dated November 1, 1999 by and among Plug Power Inc. and the registrant. (6)
10.41	Mechanical Technology Incorporated Stock Purchase Warrant dated January 31, 2000. (7)
10.42	SatCon Technology Corporation Stock Purchase Warrant dated January 31, 2000. (7)
10.43	Lease dated April 2, 2001 between Kingfisher L.L.C. and Mechanical Technology Inc. (10)
10.44	First Amendment to lease dated March 13, 2003 between Kingfisher L.L.C. and Mechanical Technology Inc. (12)
10.118	Exchange Agreement dated December 20, 2002 by and between First Albany Companies Inc. and Mechanical Technology Incorporated. (11)
10.119	Strategic Alliance Agreement, dated as of September 19, 2003, between The Gillette Company and MTI MicroFuel Cells Inc. (portions omitted pursuant to pending confidential treatment request). (13)
10.120	Funding Agreement, dated as of September 19, 2003, between the registrant and The Gillette Company (portions omitted pursuant to pending confidential treatment request). (13)
10.121	Agreement, dated January 26, 2004, between Mechanical Technology Inc. and Fletcher International, Ltd. (15)
10.122	Amendment No. 1 to the Main Agreement dated as of May 4, 2004 entered into by and between the registrant and Fletcher International, Ltd. (16)
10.123	Amendment to the Strategic Alliance Agreement between The Gillette Company and MTI MicroFuel Cells Inc. dated August 18, 2004. (17)
10.124	MTI MicroFuel Cells Inc. 2001 Employee, Director and Consultant Stock Option Plan (Amended and Restated as of September 23, 2004). (18)
10.125	MTI MicroFuel Cells Inc. 2001 Employee, Director and Consultant Stock Option Plan Stock Option Agreement (Updated September 23, 2004). (18)
10.126	MTI MicroFuel Cells Inc. 2001 Stock Option Agreement for Employees, Consultants and Directors. (18)
10.127	MTI MicroFuel Cells Inc. Notice of Exercise of Option (Updated September 23, 2004). (18)
10.128	Lease dated January 26, 2005 between 750 University LLC and MTI MicroFuel Cells Inc.
10.129	Base Salaries of Named Executive Officers of the Registrant.
10.130	Cash Compensation for Non-Management Directors of the Registrant.

<u>Exhibit Number</u>	<u>Description</u>
14.1	Code of Ethics. (14)
21	Subsidiaries of the Registrant. (14)
23	Consent of PricewaterhouseCoopers LLP.
23.1	Consent of KPMG LLP.
31.1	Rule 13a-14(a)/15d-14(a) Certification of Steven N. Fischer.
31.2	Rule 13a-14(a)/15d-14(a) Certification of Cynthia A. Scheuer.
32.1	Section 1350 Certification of Steven N. Fischer.
32.2	Section 1350 Certification of Cynthia A. Scheuer.
99.15.1	Other Consolidated Financial Statements and Supplementary Data (Plug Power Inc. for the Years Ended December 31, 2002, 2001 and 2000)
99.15.2	Other Consolidated Financial Statements and Supplementary Data (SatCon Technology Corporation for the Nine Months Ended June 29, 2002 (unaudited))

Certain exhibits were previously filed (as indicated below) and are incorporated herein by reference. All other exhibits for which no other filing information is given are filed herewith:

- (1) Filed as Exhibit 28.1 to the registrant's Form S-8 Registration Statement No. 33-26326, filed December 29, 1988.
- (2) Filed as Appendix A to the registrant's Definitive Proxy Statement Schedule 14A filed November 19, 1996.
- (3) Filed as an Exhibit to the Proxy Statement, Schedule 14A, dated March 9, 1998.
- (4) Filed as an Exhibit (bearing the same exhibit number) to the registrant's Form S-2 dated August 18, 1998.
- (5) Filed as an Exhibit to the registrant's Proxy Statement, Schedule 14A, dated February 13, 1999.
- (6) Filed as an Exhibit (bearing the same exhibit number) to the registrant's Form 10-K Report for the fiscal year ended September 30, 1999.
- (7) Filed as an Exhibit (bearing the same exhibit number) to the registrant's Form 10-Q Report for its fiscal quarter ended December 31, 1999.
- (8) Filed as an Exhibit to the Proxy Statement, Schedule 14A, dated February 22, 2000.
- (9) Filed as an Exhibit to the Proxy Statement, Schedule 14A, dated March 19, 2001.
- (10) Filed as an Exhibit (bearing the same exhibit number) to the registrant's Form 10-K Report for the fiscal year ended September 30, 2001.
- (11) Filed as an Exhibit to the registrant's Form 13-D/A Report dated January 3, 2003.
- (12) Filed as an Exhibit to the registrant's Form 10-K Report for the year ended December 31, 2002.
- (13) Filed as an Exhibit to the registrant's Form 10-Q Report for its fiscal quarter ended September 30, 2003.
- (14) Filed as an Exhibit to the registrant's Form 10-K Report for the year ended December 31, 2003.
- (15) Filed as an Exhibit to the registrant's Form 8-K Report dated January 27, 2004.
- (16) Filed as an Exhibit to the registrant's Form 8-K Report dated May 4, 2004.
- (17) Filed as an Exhibit to the registrant's Form 10-Q Report for its quarter ended September 30, 2004.
- (18) Filed as an Exhibit to the registrant's Form 8-K Report dated December 10, 2004.
- (19) Filed as an Exhibit to the registrant's Form 8-K Report dated December 22, 2004.

- (c) In accordance with the requirements of Rule 3-09 of Regulation S-X and as a result of comments received from the Securities and Exchange Commission in connection with a review of our previous filings, separate financial statements for Plug Power Inc. and SatCon Technology Corporation, less than fifty percent owned entities, filed herewith are set forth on their respective Indexes to Financial Statements of their separate financial sections. Such financial sections are filed as Exhibits 99.15.1 and 99.15.2 for Plug Power and SatCon, respectively, to this Form 10-K. Plug Power's fiscal year ended December 31, 2002 and SatCon's unaudited financial statements are for the nine months ended June 29, 2002. Additional separate financial statements for SatCon Technology Corporation for the year ended September 30, 2002 will be filed as Exhibit 99 as an amendment to this Form 10-K as soon as a consent associated with these financial statements becomes available.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

### **MECHANICAL TECHNOLOGY INCORPORATED**

Date: March 16, 2005

By: /s/ Steven N. Fischer

Steven N. Fischer  
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/ Steven N. Fischer</u> Steven N. Fischer	Chief Executive Officer and Chairman of the Board of Directors	March 16, 2005
<u>/s/ Cynthia A. Scheuer</u> Cynthia A. Scheuer	Chief Financial Officer (Principal Financial and Accounting Officer)	March 16, 2005
<u>/s/ Dale W. Church</u> Dale W. Church	President of MTI Government Systems and Director	March 16, 2005
<u>/s/ Edward A. Dohring</u> Edward A. Dohring	Director	March 16, 2005
<u>/s/ Thomas J. Marusak</u> Thomas J. Marusak	Director	March 16, 2005
<u>/s/ William P. Phelan</u> William P. Phelan	Director	March 16, 2005
<u>/s/ E. Dennis O'Connor</u> E. Dennis O'Connor	Director	March 16, 2005
<u>/s/ Walter L. Robb</u> Dr. Walter L. Robb	Director	March 16, 2005
<u>/s/ Beno Sternlicht</u> Dr. Beno Sternlicht	Director	March 16, 2005

**REPORT OF INDEPENDENT REGISTERED PUBLIC  
ACCOUNTING FIRM ON FINANCIAL STATEMENT SCHEDULE**

To the Board of Directors and Shareholders  
of Mechanical Technology Incorporated

Our audits of the consolidated financial statements referred to in our report dated March 2, 2005, appearing on page F-2 of this Form 10-K of Mechanical Technology Incorporated, also included an audit of the financial statement schedule listed in Item 15(a)(2) of this Form 10-K. In our opinion, this financial statement schedule presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements.

/s/PricewaterhouseCoopers LLP

Albany, New York  
March 2, 2005

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**VALUATION AND QUALIFYING ACCOUNTS**  
**(DOLLARS IN THOUSANDS)**

<u>Description</u>	<u>Balance at</u> <u>beginning</u> <u>of period</u>	<u>Charged to</u> <u>costs and</u> <u>expenses</u>	<u>Charged</u> <u>to other</u> <u>accounts</u>	<u>Deductions</u>	<u>Balance</u> <u>at end of</u> <u>period</u>
Allowance for doubtful accounts (accounts receivable) for the years ended:					
December 31, 2004	\$ -	\$ 58	\$ -	\$ -	\$ 58
December 31, 2003	-	-	-	-	-
December 31, 2002	-	-	-	-	-
Includes accounts written off as uncollectible and recoveries.					
Allowance for doubtful accounts (notes receivable) for the years ended:					
December 31, 2004	\$ 660	\$ -	\$ (50)	\$ (610)	\$ -
December 31, 2003	660	-	-	-	660
December 31, 2002	660	-	-	-	660
Includes accounts written off as uncollectible and recoveries.					
Valuation allowance for deferred tax assets for the years ended:					
December 31, 2004	\$1,836	\$ -	\$ -	\$ -	\$1,836
December 31, 2003	1,836	-	-	-	1,836
December 31, 2002	1,144	692	-	-	1,836
Inventory reserve for the years ended:					
December 31, 2004	\$ 8	\$107	\$ 28	\$ (76)	\$ 67
December 31, 2003	30	175	(10)	(187)	8
December 31, 2002	87	100	14	(171)	30

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

	<u>Page</u>
Report of Independent Registered Public Accounting Firm	F-2
Consolidated Financial Statements:	
Balance Sheets as of December 31, 2004 and 2003	F-3- F-4
Statements of Operations for the Years Ended December 31, 2004, 2003 and 2002	F-5
Statements of Shareholders' Equity and Comprehensive Income (Loss) for the Years Ended December 31, 2004, 2003 and 2002	F-6
Statements of Cash Flows for the Years Ended December 31, 2004, 2003 and 2002	F-7
Notes to Consolidated Financial Statements	F-8 - F-46

**REPORT OF INDEPENDENT REGISTERED  
PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Shareholders  
of Mechanical Technology Incorporated

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, shareholders' equity and comprehensive income (loss) and of cash flows present fairly, in all material respects, the financial position of Mechanical Technology Incorporated at December 31, 2004 and 2003, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2004 in conformity with accounting principles generally accepted in the United States of America. 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 audits. We conducted our audits of these statements 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, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/PricewaterhouseCoopers LLP

Albany, New York  
March 2, 2005

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**  
**December 31, 2004 and 2003**

	(Dollars in thousands)	
	<u>2004</u>	<u>2003</u>
Assets		
Current Assets:		
Cash and cash equivalents	\$22,545	\$12,380
Securities available for sale	17,678	44,031
Accounts receivable, less allowances of \$58 in 2004 and \$0 in 2003	1,772	962
Other receivables - related parties	3	-
Inventories	1,136	1,300
Prepaid expenses and other current assets	<u>504</u>	<u>514</u>
Total Current Assets	43,638	59,187
Securities available for sale - restricted	16,497	-
Property, plant and equipment, net	2,884	1,999
Deferred income taxes	3,811	4,652
Notes receivable - noncurrent, less allowance of \$660 in 2003	<u>-</u>	<u>-</u>
Total Assets	<u>\$66,830</u>	<u>\$65,838</u>

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

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**  
**December 31, 2004 and 2003**

	(Dollars in thousands)	
	<u>2004</u>	<u>2003</u>
Liabilities and Shareholders' Equity		
Current Liabilities:		
Accounts payable	\$ 13	\$ 692
Accrued liabilities	3,287	1,528
Accrued liabilities - related parties	-	48
Income taxes payable	40	12
Deferred income taxes	<u>5,486</u>	<u>14,481</u>
Total Current Liabilities	8,826	16,761
Long-Term Liabilities:		
Derivative liability	1,125	-
Other credits	<u>24</u>	<u>24</u>
Total Liabilities	<u>9,975</u>	<u>16,785</u>
Commitments and Contingencies		
Minority interests	<u>1,271</u>	<u>787</u>
Shareholders' Equity		
Common stock, par value \$1 per share, authorized 75,000,000; 38,650,949 issued in 2004 and 35,776,510 issued in 2003	38,651	35,776
Paid-in-capital	82,769	68,708
Accumulated deficit	(66,624)	(62,433)
Accumulated Other Comprehensive Income:		
Unrealized gain on securities available for sale, net of tax	14,542	19,944
Common stock in treasury, at cost, 8,040,736 shares in 2004 and 8,035,974 shares in 2003	<u>(13,754)</u>	<u>(13,729)</u>
Total Shareholders' Equity	<u>55,584</u>	<u>48,266</u>
Total Liabilities and Shareholders' Equity	<u>\$ 66,830</u>	<u>\$ 65,838</u>

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

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
**For the Years Ended December 31, 2004, 2003 and 2002**

(Dollars in thousands, except per share)

	Year Ended Dec. 31, <u>2004</u>	Year Ended Dec. 31, <u>2003</u>	Year Ended Dec. 31, <u>2002</u>
Product revenue	\$ 7,530	\$ 5,547	\$ 5,362
Funded research and development revenue	<u>1,040</u>	<u>2,311</u>	<u>1,573</u>
Total revenue	8,570	7,858	6,935
Operating costs and expenses:			
Cost of product revenue	2,877	2,382	2,428
Research and product development expenses:			
Funded research and product development	4,040	3,763	2,560
Unfunded research and product development	<u>8,920</u>	<u>4,585</u>	<u>4,055</u>
Total research and product development expenses	12,960	8,348	6,615
Selling, general and administrative expenses	<u>6,325</u>	<u>5,837</u>	<u>4,951</u>
Operating loss	(13,592)	(8,709)	(7,059)
Interest	-	(7)	(46)
Gain (loss) on derivatives	614	(6)	(188)
Gain (loss) on sale of securities available for sale, net	3,626	7,483	(444)
Gain on sale of holdings, net	-	-	6,369
Gain on exchange of securities	-	-	8,006
Impairment losses	-	(418)	(5,652)
Other income (expense), net	<u>231</u>	<u>(74)</u>	<u>(80)</u>
(Loss) income from continuing operations before income taxes, equity in holdings' losses and minority interests	(9,121)	(1,731)	906
Income tax benefit (expense)	3,564	669	(367)
Equity in holdings' losses (net of tax benefit of \$5,553 in 2002)	-	-	(8,143)
Minority interests in losses of consolidated subsidiary	<u>1,366</u>	<u>490</u>	<u>418</u>
Loss from continuing operations	(4,191)	(572)	(7,186)
Income from discontinued operations (net of taxes of \$8 in 2003 and \$154 in 2002)	<u>-</u>	<u>13</u>	<u>225</u>
Net loss	<u>\$ (4,191)</u>	<u>\$ (559)</u>	<u>\$ (6,961)</u>
(Loss) Earnings per Share (Basic and Diluted):			
Loss from continuing operations	\$ (.14)	\$ (.02)	\$ (.21)
Income from discontinued operations	<u>-</u>	<u>-</u>	<u>.01</u>
Loss per share	<u>\$ (.14)</u>	<u>\$ (.02)</u>	<u>\$ (.20)</u>

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

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY**  
**AND COMPREHENSIVE INCOME (LOSS)**

**For the Years Ended December 31, 2004, 2003 and 2002**

(Dollars in thousands)

	Year Ended Dec. 31, <u>2004</u>	Year Ended Dec. 31, <u>2003</u>	Year Ended Dec. 31, <u>2002</u>
<b>COMMON STOCK</b>			
Balance, beginning	\$ 35,776	\$ 35,648	\$ 35,505
Issuance of shares – private placement	2,681	-	-
Issuance of shares – options	194	128	93
Issuance of shares – restricted stock	<u>-</u>	<u>-</u>	<u>50</u>
Balance, ending	<u>\$ 38,651</u>	<u>\$ 35,776</u>	<u>\$ 35,648</u>
<b>PAID-IN-CAPITAL</b>			
Balance, beginning	\$ 68,708	\$ 67,479	\$ 67,045
Private placement, net of expenses	12,505	-	-
Derivative tax asset	696	-	-
Issuance of shares – options	215	93	18
MTI MicroFuel Cell investment	351	881	(28)
Plug Power holding, net of taxes	-	-	430
SatCon holding, net of taxes	-	-	(90)
Compensatory options	-	32	49
Stock option exercises recognized differently for financial reporting and tax purposes	<u>294</u>	<u>223</u>	<u>55</u>
Balance, ending	<u>\$ 82,769</u>	<u>\$ 68,708</u>	<u>\$ 67,479</u>
<b>ACCUMULATED DEFICIT</b>			
Balance, beginning	\$(62,433)	\$(61,874)	\$(54,913)
Net loss	<u>(4,191)</u>	<u>(559)</u>	<u>(6,961)</u>
Balance, ending	<u>\$(66,624)</u>	<u>\$(62,433)</u>	<u>\$(61,874)</u>
<b>ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS):</b>			
<b>UNREALIZED GAIN (LOSS) ON SECURITIES AVAILABLE FOR SALE, NET OF TAXES</b>			
Balance, beginning	\$ 19,944	\$ 13,170	\$ -
Change in unrealized (loss) gain on securities available for sale (net of taxes of \$2,550 in 2004, \$6,705 in 2003 and \$8,781 in 2002)	(3,826)	10,057	13,170
Less reclassification adjustment for gains included in net income (net of taxes of \$1,051 in 2004 and \$2,189 in 2003)	<u>(1,576)</u>	<u>(3,283)</u>	<u>-</u>
Balance, ending	<u>\$ 14,542</u>	<u>\$ 19,944</u>	<u>\$ 13,170</u>
<b>TREASURY STOCK</b>			
Balance, beginning	\$(13,729)	\$(13,635)	\$ (29)
Stock acquisition	<u>(25)</u>	<u>(94)</u>	<u>(13,606)</u>
Balance, ending	<u>\$(13,754)</u>	<u>\$(13,729)</u>	<u>\$(13,635)</u>
<b>RESTRICTED STOCK GRANTS</b>			
Balance, beginning	\$ -	\$ (40)	\$ -
Grants issued	-	-	(50)
Grants vested	<u>-</u>	<u>40</u>	<u>10</u>
Balance, ending	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (40)</u>
<b>TOTAL SHAREHOLDERS' EQUITY</b>	<u>\$ 55,584</u>	<u>\$ 48,266</u>	<u>\$ 40,748</u>
<b>TOTAL COMPREHENSIVE (LOSS) INCOME:</b>			
Net loss	\$ (4,191)	\$ (559)	\$ (6,961)
Other comprehensive (loss) income:			
Change in unrealized (loss) gain on securities available for sale, net	<u>(5,402)</u>	<u>6,774</u>	<u>13,170</u>
Total comprehensive (loss) income	<u>\$ (9,593)</u>	<u>\$ 6,215</u>	<u>\$ 6,209</u>

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

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
**For the Years Ended December 31, 2004, 2003 and 2002**

(Dollars in thousands)	Year Ended Dec. 31, <u>2004</u>	Year Ended Dec. 31, <u>2003</u>	Year Ended Dec. 31, <u>2002</u>
<b>OPERATING ACTIVITIES</b>			
Net loss excluding discontinued operations	\$ (4,191)	\$ (572)	\$(7,186)
Adjustments to reconcile net loss to net cash used by operating activities:			
(Gain) loss on derivatives	(614)	6	188
Loss on retirement of subsidiary treasury stock	-	5	-
Impairment losses	-	418	5,652
(Gain) loss on sale of securities available for sale, net	(3,626)	(7,483)	444
Gain on sale of holdings, net	-	-	(6,369)
Gain on exchange of securities	-	-	(8,006)
Depreciation and amortization	911	599	592
Minority interests in losses of consolidated subsidiary	(1,366)	(490)	(418)
Equity in holdings' losses, gross	-	-	13,696
Allowance for bad debts	58	-	-
Loss on disposal of fixed assets	38	26	15
Deferred income taxes and other credits	(3,563)	(671)	(4,974)
Stock based compensation	8	72	59
Changes in operating assets and liabilities net of effects from discontinued operations:			
Accounts receivable	(868)	483	(543)
Other receivables – related parties	(3)	-	-
Inventories	164	78	132
Prepaid expenses and other current assets	10	161	266
Accounts payable	(679)	(68)	116
Income taxes payable	28	(80)	64
Accrued liabilities - related parties	(48)	(142)	89
Accrued liabilities	<u>1,759</u>	<u>(15)</u>	<u>(89)</u>
Net cash used by operating activities excluding discontinued operations	(11,982)	(7,673)	(6,272)
Discontinued Operations:			
Income from discontinued operations	-	13	225
Deferred income taxes and other credits	-	8	154
Changes in net liabilities/assets	<u>-</u>	<u>-</u>	<u>(356)</u>
Net cash provided by discontinued operations	<u>-</u>	<u>21</u>	<u>23</u>
Net cash used by operating activities	<u>(11,982)</u>	<u>(7,652)</u>	<u>(6,249)</u>
<b>INVESTING ACTIVITIES</b>			
Purchases of property, plant and equipment	(1,834)	(1,070)	(527)
Proceeds from sale of securities available for sale	4,479	11,654	865
Proceeds from sale of holdings	-	-	9,969
Change in restricted cash equivalents, net	-	-	14
Principal payments from notes receivable	<u>-</u>	<u>-</u>	<u>25</u>
Net cash provided by investing activities	<u>2,645</u>	<u>10,584</u>	<u>10,346</u>
<b>FINANCING ACTIVITIES</b>			
Gross proceeds from private placement	18,000	-	-
Proceeds from stock option exercises	409	221	111
Net proceeds from subsidiary stock issuance	2,194	2,001	-
Purchase of common stock for treasury	(25)	(94)	-
Treasury stock purchase by subsidiary	-	-	(15)
Financing costs	(1,076)	-	-
Payments under lines-of-credit	<u>-</u>	<u>-</u>	<u>(1,000)</u>
Net cash provided (used) by financing activities	<u>19,502</u>	<u>2,128</u>	<u>(904)</u>
Increase in cash and cash equivalents	10,165	5,060	3,193
Cash and cash equivalents - beginning of year	<u>12,380</u>	<u>7,320</u>	<u>4,127</u>
Cash and cash equivalents - end of year	<u>\$ 22,545</u>	<u>\$ 12,380</u>	<u>\$ 7,320</u>

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

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies**

***Principles of Consolidation***

The consolidated financial statements include the accounts of the Company and its majority-owned subsidiaries. The equity method of accounting is used for holdings in entities over which the Company has significant influence, generally this represents common stock ownership or partnership equity of at least 20% and not more than 50%, or where the Company has the ability to exercise significant influence (through board representation, and significant shareholdings) over operating and financial policies of the underlying entity. All significant intercompany transactions are eliminated in consolidation.

Minority interest in subsidiaries consists of equity securities issued by a subsidiary of the Company. No gain or loss was recognized as a result of the issuance of these securities, and the Company owned a majority of the voting equity of the subsidiary both before and after the transactions. The Company reflects the impact of the equity securities issuances in its investment in subsidiary and additional paid-in-capital accounts for the dilution or anti-dilution of its ownership interest in the subsidiary.

Under the equity method of accounting, the Company recognized its proportionate share of income or loss of holdings. Holdings' losses were generally recognized only to the extent of holdings. Changes in equity of holdings, other than income or loss, which changed the Company's proportionate interest in the underlying equity of holdings, were generally accounted for as changes in holdings and additional paid-in-capital. Non-monetary contributions to equity holdings were recorded at book value, and if the Company's calculated share of net assets of holdings exceeded the book value of non-monetary contributions, the difference was accounted for as a basis difference. Original differences between the Company's carrying amount of an equity holding and its calculated share of the holding's net assets were treated as an embedded difference if the Company's carrying amount was higher, or as a basis difference if lower. Until January 1, 2002, embedded differences were amortized into net income (loss) from holdings generally over a five-year period while basis differences were generally not amortized due to the research and development nature of holdings. Upon an equity holdings' initial public offering, basis differences were eliminated in connection with the change in equity. Impairment was measured in accordance with the Company's asset impairment policy.

***Change in Year-End***

On February 13, 2002, the Company changed its fiscal year-end from September 30 to December 31, effective with the calendar year beginning January 1, 2002. This new fiscal year made the Company's annual and quarterly reporting periods consistent with those used by Plug Power Inc. ("Plug Power") and permitted the Company to continue to account for its holdings in Plug Power on a timely basis through December 20, 2002, the date of its change in accounting for Plug Power from the equity method to the fair value method.

***Change in Accounting for Holdings***

***SatCon Technology Corporation ("SatCon")***

The Company's holdings in SatCon were accounted for on a one-quarter lag under the equity method of accounting from their acquisition date through July 1, 2002. On July 1, 2002, the Company determined that it no longer had the ability to exercise significant influence over the operating and financial policies of SatCon as a result of waiving the Company's right to nominate and recommend directors to SatCon's board and our reduction of ownership in SatCon and, therefore, accounted for its investment in SatCon since July 1, 2002 using the fair value method as set forth in Statement of Financial Accounting Standards ("SFAS") No. 115, *Accounting for Certain Debt and Equity Securities*. The Company was no longer

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies** (Continued)

required to record its share of any losses from SatCon and the investment was carried at fair value, designated as available for sale and any unrealized holding gains or losses were included in shareholders' equity as a component of accumulated other comprehensive income (loss) until the investment was sold during 2003.

*Plug Power*

The Company's holdings in Plug Power were accounted for under the equity method of accounting from their acquisition date through December 20, 2002. On December 20, 2002, the Company determined that it no longer had the ability to exercise significant influence over the operating and financial policies of Plug Power as a result of its reduced ownership and lack of representation on Plug Power's board of directors and, therefore, accounted for its investment in Plug Power since December 20, 2002 using the fair value method as set forth in SFAS No. 115, *Accounting for Certain Debt and Equity Securities*. The Company was no longer required to record its share of any losses from Plug Power and the holding was carried at fair value, designated as available for sale and any unrealized holding gains or losses were included in shareholders' equity as a component of accumulated other comprehensive income (loss).

*Use of Estimates*

The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

*Fair Value of Financial Instruments*

The Company's financial instruments consist of cash and cash equivalents, marketable securities, accounts receivable, unbilled contract costs and fees, warrants to purchase shares of common stock and accounts payable. The estimated fair value of these financial instruments approximate their carrying values at December 31, 2004 and 2003. The estimated fair values have been determined through information obtained from market sources, where available, or Black-Scholes valuations.

*Accounting for Derivative Instruments*

The Company accounts for derivative instruments and embedded derivative instruments in accordance with Statement of Financial Accounting Standards ("SFAS") No. 133, *Accounting for Derivative Instruments and Hedging Activities*, as amended by SFAS No. 138, *Accounting for Derivative Instruments and Certain Hedging Activities*, which establishes a model for accounting for derivatives and hedging activities. These standards require an entity to recognize all derivatives as either assets or liabilities in the statement of financial position and measure these instruments at fair value. Fair value is estimated using the Black Scholes Option-Pricing Model. The Company also follows Emerging Issues Task Force ("EITF") Issue No. 00-19, *Accounting for Derivative Financial Instruments Indexed to and Potentially Settled in, a Company's Own Stock*, which requires freestanding contracts that are settled in a company's own stock, including common stock warrants, to be designated as an equity instrument, asset or a liability. Under the provisions of EITF Issue No. 00-19, a contract designated as an asset or a liability must be carried at fair value, with any changes in fair value recorded in the results of operations. A contract designated as an equity instrument must be included within equity, and no fair value adjustments are required.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies (Continued)**

The Company held or has outstanding as of December 31, the following derivative financial instruments:

	<u>2004</u>	<u>2003</u>	<u>Expiration</u>
<b>Derivatives issued:</b>			
Warrants, exercisable beginning February 5, 2005, to purchase the Company's common stock issued to Chicago Investment Group, L.L.C. at a purchase price of \$10.572 per share	28,377	-	February 5, 2006
Second Investment Right, exercisable beginning December 22, 2004, to purchase the Company's common stock issued to Fletcher International, Ltd. at a purchase price of \$6.34 per share through December 31, 2006 (1)	3,154,575	-	December 31, 2006
Plug Power Investment Right, exercisable at any time from June 1, 2005 through December 31, 2006 to purchase a number of the Company's shares of Plug Power common stock (to the extent of the number of shares remaining in escrow pursuant to the agreement) equal to \$10,000,000 divided by the prevailing price per share of Plug Power common stock (1)	(2)	-	December 31, 2006
Warrants, immediately exercisable, to purchase the Company's common stock issued to SatCon at a purchase price of \$12.56 per share	-	192,000	January 31, 2004
<b>Derivatives held:</b>			
Warrants, immediately exercisable, to purchase SatCon common stock at a purchase price of \$7.84 per share	-	64,000	January 31, 2004

(1) The Company and Fletcher International, Ltd. entered into an amended private placement agreement on May 4, 2004 (see Note 11 – Shareholders' Equity).

(2) The exercise price for the Plug Power Investment Right is \$10,000,000 less the positive difference between \$18,000,000 and the product of the 2,680,671 shares multiplied by the prevailing price per share of our common stock on the date Fletcher elects to exercise such right, all divided by the quotient obtained by dividing 10,000,000 by the prevailing price of Plug Power common stock on the date Fletcher elects to exercise such right (see Note 11 – Shareholders' Equity).

The Plug Power Investment Right is legally detached and separate. In accordance with EITF 00-19, since this contract is indexed not only to MTI's stock but also to Plug Power's stock and it settles in Plug Power stock and not MTI stock, this contract is not solely indexed to the Company's stock in accordance with the guidance in EITF 01-6 and as a result is a derivative. The contract meets the definition of a derivative under par. 6 of FAS 133. Management considered whether or not the contract would be eligible for a scope exception described in par. 11.a. of FAS 133 relating to instruments indexed to a company's own stock and determined that the contract is not eligible for this scope exception.

The First and Second Investment Rights meet the criteria of SFAS No. 133, paragraph 11, as well as guidance in EITF 00-19 and EITF 01-06. The Rights are indexed to the Company's stock and require settlement in shares and because these rights were part of the initial Fletcher investment, they are part of the original investment's fair value and are recorded as permanent equity and are not separately valued.

The Plug Power Investment Right is valued on a quarterly basis using the Black-Scholes Option Pricing model. Significant assumptions used in the valuation include exercise dates, closing stock prices for MTI and Plug Power, volatility of MTI and Plug Power, risk-free interest rate and estimated number of shares in escrow. Gains (losses) on derivatives are included in "Gain (loss) on derivatives" in the Consolidated Statements of Operations.

***Accounts Receivable and Allowance for Doubtful Accounts***

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The allowance for doubtful accounts is our best estimate of the amount of probable credit losses in our existing accounts receivable. We determine the allowance based on historical write-off experience and current exposures identified. We review our allowance for doubtful accounts monthly. Past due balances over 90 days and over a specified amount are reviewed individually for collectibility. All other balances are reviewed on a pooled basis by type of receivable. Account balances are charged off against the allowance when we feel it is probable the receivable will not be recovered. We do not have any off-balance-sheet credit exposure related to our customers.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies (Continued)**

***Inventories***

Inventories are stated at the lower of cost (first-in, first-out) or market.

***Property, Plant, and Equipment***

Property, plant and equipment are stated at cost and depreciated using primarily the straight-line method over their estimated useful lives:

Leasehold improvements	Lesser of the life of the lease or the useful life of the improvement
Machinery and equipment	2 to 10 years
Office furniture, equipment and fixtures	2 to 10 years

Significant additions or improvements extending assets' useful lives are capitalized; normal maintenance and repair costs are expensed as incurred. The costs of fully depreciated assets remaining in use are included in the respective asset and accumulated depreciation accounts. When items are sold or retired, related gains or losses are included in net income (loss).

***Income Taxes***

The Company accounts for taxes in accordance with SFAS No. 109, *Accounting for Income Taxes*, which requires the use of the asset and liability method of accounting for income taxes. Under the asset and liability method, deferred income taxes are recognized for the tax consequences of "temporary differences" by applying enacted statutory tax rates applicable for future years to differences between financial statement and tax bases of existing assets and liabilities. Under SFAS No. 109, the effect of tax rate changes on deferred taxes is recognized in the income tax provision in the period that includes the enactment date. The provision for taxes is reduced by investment and other tax credits in the years such credits become available. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets unless it is more likely than not that such assets will be realized.

***Revenue Recognition***

The Company applies the guidance within SEC Staff Accounting Bulletin ("SAB") No. 104, *Revenue Recognition*, which superceded SAB No. 101, *Revenue Recognition in Financial Statements* in the evaluation of its contracts to determine when to properly recognize revenue. Under SAB No. 104, revenue is recognized when title and risk of loss have passed to the customer, there is persuasive evidence of an arrangement, the fee is fixed or determinable, delivery has occurred or services have been rendered, the sales price is determinable, and collectibility is reasonably assured.

***Product Revenue***

Product revenue is recognized when there is persuasive evidence of an arrangement, the collection a fixed fee is probable or determinable, delivery of the product to the customer or distributor has occurred, at which time title generally is passed to the customer or distributor, all of which generally occur upon shipment of the product. If the product requires installation to be performed by the Company, all revenue related to the product is deferred and recognized upon the completion of the installation. If the product requires specific customer acceptance, revenue is deferred until customer acceptance occurs or the acceptance provisions lapse, unless the Company can objectively and reliably demonstrate that the criteria specified in the acceptance provisions are satisfied.

The Company defers recognition of its initial micro fuel cell product-related revenue at the time of delivery and recognizes revenue as the continued warranty obligations expire. The costs associated with the product and warranty obligations are expensed as they are incurred.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies** (Continued)

The Company's initial shipment of its micro fuel cell product is a customer specific arrangement that includes fuel cell systems and continued warranty support. While contract terms require payment upon delivery of the fuel cell system and are not contingent on the achievement of specific milestones or other substantive performance, the continuing obligation to warranty the product results in the Company deferring recognition of product-related revenue and recognizing product-related revenue when the warranty obligations expire. The warranty on the product is for a period of fifteen months. When micro fuel cell product-related revenue qualifies for revenue recognition it will be recorded in the Consolidated Statements of Operations in the line titled "Other income."

As the Company gains commercial experience, including field experience relative to warranty based on the sales of its initial products, in future periods, the Company may recognize product-related revenue upon delivery of the product or may continue to defer recognition, based on application of appropriate guidance within SAB No. 104, or changes in the manner contractual agreements are structured, including agreements with distribution partners.

MTI Instruments, Inc. ("MTI Instruments"), a wholly-owned subsidiary of MTI, currently has distributor agreements in place for (1) the domestic sale of its semiconductor products and (2) for the international sale of general instrument and semiconductor products in certain global regions. Such agreements grant a distributor the right of first refusal to act as distributor for such products in the distributor's territory. In return, the distributor agrees to not market other products which are considered by MTI Instruments to be in direct competition with MTI Instruments' products. The distributor is allowed to purchase MTI Instruments' equipment at a price which is discounted off the published domestic/international list prices. Such list prices can be adjusted by MTI Instruments during the term of the distributor agreement, but MTI Instruments must provide advance notice at least 90 days before the price adjustment goes into effect. Generally, payment terms with the distributor are standard net 30 days; however, on occasion, extended payment terms have been granted. Title to the product passes to the distributor upon delivery to the independent carrier (standard FOB factory), and the distributor is responsible for any required training and/or service with the end-user. The sale (and subsequent payment) between MTI Instruments and the distributor is not contingent upon the successful resale of the product by the distributor. Distributor sales are covered by MTI Instruments' standard one-year warranty and there are no special return policies for distributors.

Some of MTI Instruments' direct sales, particularly sales of semi-automatic and fully-automated semiconductor metrology equipment, involve on-site customer acceptance and/or training. In those instances, revenue recognition does not take place at time of shipment. Instead, MTI Instruments recognizes the sale after the unit is installed and/or training is performed and an on-site acceptance is given by the customer. Agreed-upon acceptance terms and conditions, if any, are negotiated at time of purchase.

***Funded Research and Development Revenue***

The Company performs funded research and development for government agencies and commercial companies under both cost reimbursement and fixed-price contracts. Cost reimbursement contracts provide for the reimbursement of allowable costs. On fixed-price contracts, revenue is generally recognized on the percentage of completion method based upon the proportion of costs incurred to the total estimated costs for the contract. Revenue from reimbursement contracts is recognized as the services are performed. In each type of contract, the Company generally receives periodic progress payments or payments upon reaching interim milestones. When the current estimates of total contract revenue for commercial development contracts indicate a loss, a provision for the entire loss on the contract is recorded. Any losses incurred in performing funded research and development projects are recognized as research and development

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies** (Continued)

expense as incurred. When government agencies are providing funding they do not expect the government to be the only significant end user of the resulting products. These contracts do not require delivery of products that meet defined performance specifications, but are best efforts arrangements to achieve overall research and development objectives. Included in accounts receivable are billed and unbilled work-in-progress on contracts. Billings in excess of contract revenues earned are recorded as deferred revenue. While the Company's accounting for government contract costs is subject to audit by the sponsoring entity, in the opinion of management, no material adjustments are expected as a result of such audits. Adjustments are recognized in the period made.

The Company has fixed-price contracts with the following entities: Harris Corporation ("Harris"), Army Research Laboratories ("ARL"), Cabot Superior Micro Powders ("CSMP"), the U.S. Navy and the U.S. Army. These contracts will each result in the following funding amounts upon completion of research tasks (CSMP and the U.S. Navy) or prototypes (Harris, ARL and the U.S. Army) of \$250,000, \$200,000, \$200,000, \$69,907 and \$249,831, respectively.

The Company has three cost-shared contracts with the following entities: the National Institute of Standard and Technology ("NIST"); the New York State Energy Research and Development Authority ("NYSERDA"); and the Department of Energy ("DOE"). These contracts require that the Company's subsidiary MTI MicroFuel Cells Inc. ("MTI Micro") conduct research and deliver direct methanol micro fuel cell ("DMFC") prototypes pursuant to predefined work plans and schedules. The contracts with NIST, NYSEDA and DOE result in the following total multi-year contract expenditures by MTI Micro: \$6,696,968, \$2,095,470 and \$6,144,094, and result in total multi-year funding of \$3,342,085, \$1,047,735 and \$3,000,000, respectively.

MTI Micro retains ownership of the intellectual property ("IP") generated under each of its federal government contracts and under contracts with Harris and CSMP. Each federal government agency retains a government use license and march- in rights if MTI Micro fails to commercialize technology generated under the contract. In addition, under the NYSEDA contract, MTI Micro has the right to elect to retain any invention made under the NYSEDA contract within six months of invention. NYSEDA also retains rights to a government use license for New York State and its political subdivisions for any inventions made under the contract. In addition, MTI Micro agreed to pay NYSEDA a royalty of 1.5% of the sales price of any product sold incorporating IP developed pursuant to the NYSEDA contract if the product is manufactured by a New York State manufacturer. This royalty increases to 5% if the manufacturer is not deemed to be a New York State manufacturer. In any event, the royalty is subject to a cap equal to two times the total contract funds paid by NYSEDA to MTI Micro as reduced to reflect any New York State jobs created by MTI Micro.

***Cost of Product Revenue***

Cost of product revenue includes material, labor and overhead. Costs incurred in connection with funded research and development arrangements are included in funded research and product development expenses.

Deferred revenue consists of payments received from customers in advance of services performed, products shipped or installation completed.

***Warranty***

The Company records a warranty reserve at the time product revenue is recorded based on a historical rate. The reserve is reviewed during the year and is adjusted, if appropriate, to reflect new product offerings or changes in experience. Actual warranty claims are tracked by product.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies** (Continued)

***Accounting for Goodwill and Other Intangible Assets***

Intangible assets include patents and trade names. Goodwill and other intangible assets are accounted for in accordance with SFAS No. 142, *Goodwill and Other Intangible Assets*. Intangible assets with finite useful lives are amortized over those periods. Indefinite lived intangible assets will be tested for impairment annually, and will be tested for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Definite lived assets are tested for impairment whenever events or circumstances indicate that a carrying amount of an asset may not be recoverable. An impairment loss would be recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss to be recorded is calculated by the excess of the assets carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. Costs related to internally-developed intangible assets are expensed as incurred.

***Accounting for Impairment or Disposal of Long-Lived Assets***

The Company accounts for impairment or disposal of long-lived assets in accordance with SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, which supersedes SFAS No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of*, and the accounting and reporting provisions of Accounting Principles Board (“APB”) Opinion No. 30. This Statement addresses financial accounting and reporting for the impairment or disposal of long-lived assets and specifies how impairment will be measured and how impaired assets will be classified in the consolidated financial statements.

***Cash and Cash Equivalents***

Cash and cash equivalents consist of cash and highly liquid short-term investments with original maturities of less than three months.

***Securities Available for Sale***

Management determines the appropriate classification of its investments in marketable securities at the time of purchase and reevaluates such determinations at each balance sheet date. Marketable securities for which the Company does not have the intent or ability to hold to maturity are classified as available for sale. Securities available for sale are carried at fair value, with the unrealized gains and losses, net of income taxes, reported as a separate component of shareholders’ equity. The Company has had no investments that qualify as trading or held to maturity. Realized gains and losses are included in “Gain (loss) on sale of securities available for sale, net” in the Consolidated Statements of Operations. The cost of securities sold is based on the specific identification method.

***Net (Loss) Income per Basic and Diluted Common Share***

The Company reports net (loss) income per basic and diluted common share in accordance with SFAS No. 128, *Earnings Per Share*, which establishes standards for computing and presenting (loss) income per share. Basic (loss) income per share is computed by dividing net (loss) income attributable to common shareholders by the weighted-average number of common shares outstanding for the period. Diluted (loss) income per share reflects the potential dilution, if any, which would occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that then shared in the (loss) income of the Company.

***Stock Based Compensation***

At December 31, 2004, the Company has two stock-based employee compensation plans, which are described more fully in Note 13, Stock Based Compensation. SFAS No. 123, *Accounting for Stock-Based Compensation*, requires the measurement of the fair value of stock options or warrants granted to employees to be included in the Consolidated Statement of

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies** (Continued)

Operations or, alternatively, disclosed in the notes to consolidated financial statements. The Company accounts for stock-based compensation of employees under the intrinsic value method of APB Opinion No. 25, *Accounting for Stock Issued to Employees*, and related Interpretations and has elected the disclosure-only alternative under SFAS No. 123, *Share-Based Payment*. The Company records the fair market value of stock options and warrants granted to non-employees in exchange for services in accordance with EITF No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*, in the Consolidated Statement of Operations. The Company does not intend to adopt the transition provisions of SFAS No. 148, *Accounting for Stock- Based Compensation- Transition and Disclosure*.

The following table illustrates the effect on net loss and loss per share if the Company had applied the fair value recognition provisions of SFAS Statement No. 123, *Accounting for Stock-Based Compensation*, to stock-based employee compensation for each of the years ended December 31:

(Dollars in thousands, except per share data)	<u>2004</u>	<u>2003</u>	<u>2002</u>
Net loss, as reported	\$(4,191)	\$ (559)	\$(6,961)
Add: Total stock-based employee compensation expense already recorded in financial statements, net of related tax effects	5	44	30
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	<u>(3,116)</u>	<u>(1,604)</u>	<u>(1,995)</u>
Pro forma net loss	<u>\$(7,302)</u>	<u>\$(2,119)</u>	<u>\$(8,826)</u>
Loss per Share:			
Basic and diluted - as reported	<u>\$ (.14)</u>	<u>\$ (.02)</u>	<u>\$ (.20)</u>
Basic and diluted - pro forma	<u>\$ (.25)</u>	<u>\$ (.08)</u>	<u>\$ (.25)</u>

***Advertising***

The costs of advertising are expensed as incurred. Advertising expense was approximately \$41, \$25 and \$37 thousand in 2004, 2003 and 2002, respectively.

***Concentration of Credit Risk***

Financial instruments that subject the Company to concentrations of credit risk principally consist of cash equivalents, marketable securities, trade accounts receivable and unbilled contract costs.

The Company's trade accounts receivable and unbilled contract costs and fees are primarily from sales to commercial customers and U.S. government and state agencies. The Company does not require collateral and has not historically experienced significant credit losses related to receivables or unbilled contract costs and fees from individual customers or groups of customers in any particular industry or geographic area.

The Company deposits its cash and invests in marketable securities primarily through commercial banks and investment companies. Credit exposure to any one entity is limited by Company policy.

***Research and Development Costs***

The Company expenses research and development costs as incurred.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies** (Continued)

***Comprehensive Income (Loss)***

Comprehensive income (loss) includes net income (loss), as well as changes in shareholders' equity, other than those resulting from investments by shareholders (i.e., issuance or repurchase of common shares and dividends).

***Effect of Recent Accounting Pronouncements***

In January 2003, the Financial Accounting Standards Board ("FASB") issued Interpretation No. 46, *Consolidation of Variable Interest Entities* ("FIN 46") which was amended by FIN 46R issued in December 2003. FIN 46 addresses consolidation by business enterprises of variable interest entities ("VIE's") that either: (1) do not have sufficient equity investment at risk to permit the entity to finance its activities without additional subordinated financial support or (2) for which the equity investors lack an essential characteristic of a controlling financial interest. FIN 46 requires consolidation of VIE's for which MTI is the primary beneficiary and disclosure of a significant interest in a VIE for which MTI is not the primary beneficiary. As a result of our review, no entities were identified requiring disclosure or consolidation under FIN 46.

In November 2004, the FASB issued SFAS No. 151, *Inventory Costs—an amendment of ARB No. 43, Chapter 4* ("FAS 151"), which is the result of its efforts to converge U.S. accounting standards for inventories with International Accounting Standards. SFAS No. 151 requires idle facility expenses, freight, handling costs and wasted material (spoilage) costs to be recognized as current-period charges. It also requires that allocation of fixed production overheads to the costs of conversion be based on the normal capacity of the production facilities. SFAS No. 151 will be effective for inventory costs incurred during fiscal years beginning after June 15, 2005. The Company is in the process of evaluating the impact of this standard on its consolidated financial statements.

In December 2004, the FASB issued SFAS No. 123 (Revised 2004) *Share-Based Payment* ("SFAS No. 123R"). SFAS No. 123R addresses all forms of share-based payment ("SBP") awards, including shares issued under employee stock purchase plans, stock options, restricted stock and stock appreciation rights. SFAS No. 123R will require the Company to expense SBP awards with compensation cost for SBP transactions measured at fair value. The FASB originally stated a preference for a lattice model because it believed that a lattice model more fully captures the unique characteristics of employee stock options in the estimate of fair value, as compared to the Black-Scholes model which the Company currently uses for its footnote disclosure. The FASB decided to remove its explicit preference for a lattice model and not require a single valuation methodology. SFAS No. 123R requires the Company to adopt the new accounting provisions beginning in its third quarter of 2005. The Company has not yet determined the impact of applying the various provisions of SFAS No. 123R. The unvested value to be amortized into the operating statement is approximately \$5.7 million as of December 31, 2004.

In December 2004, the FASB issued SFAS No. 153, *Exchanges of Non-monetary Assets, an amendment of APB Opinion No. 29*. SFAS No. 153 addresses the measurement of exchanges of non-monetary assets and redefines the scope of transactions that should be measured based on the fair value of the assets exchanged. SFAS No. 153 is effective for non-monetary asset exchanges beginning in our second quarter of fiscal 2006. The Company is in the process of evaluating the impact of this standard on its consolidated financial statements.

***Reclassification***

Certain 2002 amounts have been reclassified to conform to the 2004 presentation. The reclassifications have no effect on total revenues, total expenses, net loss or shareholders' equity as previously reported.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Accounting Policies (Continued)**

The reclassifications impact our Consolidated Statements of Operations in the following ways:

- Equity in holdings' losses (net of tax) now includes impairment losses previously included in Impairment losses.

**2. Accounts Receivable and Allowance for Doubtful Accounts**

Receivables consist of the following at December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
U.S. and State Government:		
Amount billable	\$301	\$272
Amount billed	844	282
Retainage	<u>11</u>	<u>65</u>
Total U.S. and State Government	<u>\$1,156</u>	<u>\$619</u>
Commercial:	<u>674</u>	<u>343</u>
	1,830	962
Allowance for bad debts	<u>(58)</u>	<u>-</u>
Total	<u>\$1,772</u>	<u>\$962</u>

The balances billed but not paid by customers pursuant to retainage provisions in contracts are due upon completion of the contracts and acceptance by the customer. Based on the Company's experience, most retainage amounts are expected to be collected within the ensuing year.

Following are the changes in the allowance for doubtful accounts during the years ended December 31:

(Dollars in thousands)	Balance Beginning of Year	Additions	Write-offs, Net of Recoveries	Balance End of Year
2004	\$ -	58	-	\$ 58
2003	\$ -	-	-	\$ -
2002	\$ -	-	-	\$ -

**3. Issuance of Stock by Subsidiary**

MTI Micro was formed on March 26, 2001. As of December 31, 2004, the Company owns approximately 89% of MTI Micro's outstanding common stock.

On April 7, 2004, MTI Micro sold 3,218,885 and 215,000 shares of MTI Micro common stock to the Company and a group of private investors, respectively, at a price of \$4.66 per share for approximately \$15 million and \$1 million, respectively. Further, on May 20, 2004, MTI Micro sold 215,000 shares of MTI Micro common stock to a private investor at a price of \$4.66 per share for approximately \$1 million.

On September 19, 2003, MTI Micro entered into a strategic alliance agreement with Gillette whereby Gillette purchased 1,088,278 shares of MTI Micro common stock at a price of \$.92 per share for \$1 million pursuant to an equity investment agreement (the "Investment Agreement"). In addition to the foregoing referenced \$1 million investment in MTI Micro common stock, Gillette may make additional investments of up to \$4 million subject to agreed milestones. The Company agreed to invest \$20 million in MTI Micro before September 19, 2005 if other sources of funding are not available. Immediately prior to the Gillette transaction closing, the Company invested \$11 million (\$7.4 million in cash and \$3.6 million through the conversion of a loan receivable to equity) of its \$20 million commitment in MTI Micro common stock.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**3. Issuance of Stock by Subsidiary (Continued)**

On October 29, 2003, Jeong Kim, a member of the board of directors of MTI Micro, purchased 1,088,278 shares of MTI Micro common stock at a price of \$.92 per share for \$1 million

As a result of the Company's 2004 investment in MTI Micro common stock, it has fully satisfied its remaining investment guaranty under The Gillette Company ("Gillette") agreement.

In connection with the Gillette transaction, MTI Micro converted its Junior Convertible Preferred Class A and Senior Convertible Preferred Class B stock into common stock and treasury stock of \$15 thousand was retired.

During 2002, MTI Micro purchased treasury shares from former employees with a total value of \$15 thousand.

The increase (decrease) in the Company's paid-in-capital of \$351, \$881 and \$(28) thousand in 2004, 2003 and 2002, respectively, represents the changes in the Company's equity investment in MTI Micro, which resulted from third-party stock transactions in MTI Micro.

**4. Inventories**

Inventories consist of the following at December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Finished goods	\$ 318	\$ 300
Work in process	100	316
Raw materials, components and assemblies	<u>718</u>	<u>684</u>
	<u>\$1,136</u>	<u>\$1,300</u>

**5. Property, Plant and Equipment**

Property, plant and equipment consist of the following at December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Leasehold improvements	\$ 1,162	\$ 899
Machinery and equipment	4,087	2,683
Office furniture and fixtures	273	333
Construction in progress	<u>-</u>	<u>3</u>
	5,522	3,918
Less accumulated depreciation	<u>2,638</u>	<u>1,919</u>
	<u>\$2,884</u>	<u>\$1,999</u>

Depreciation expense was \$911, \$599 and \$497 thousand for 2004, 2003 and 2002, respectively. Repairs and maintenance expense was \$111, \$83 and \$71 thousand for 2004, 2003 and 2002, respectively.

**6. Notes Receivable**

Notes receivable consist of the following at December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Notes receivable (A)	\$ -	\$ 660
Less: Current portion	-	-
Less: Allowance for losses	<u>-</u>	<u>(660)</u>
	<u>\$ -</u>	<u>\$ -</u>

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**6. Notes Receivable** (Continued)

<sup>(A)</sup> On August 13, 2003, the Company converted its existing note receivable to a redeemable subordinated debenture. The debenture accrues interest at the rate of 12% per annum. Repayments are scheduled to begin December 1, 2004 in accordance with the debenture agreement.

During 2004, the Company received a \$50 thousand payment under an agreement to settle the outstanding note, and wrote the remaining note receivable off against its allowance for bad debts.

**7. Securities Available for Sale**

Securities available for sale are classified as current assets and accumulated net unrealized gains (losses) are charged to other comprehensive income (loss). In connection with the Company's private placement consummated on January 29, 2004 and the amendment of the private placement agreement on May 4, 2004, the Company has escrowed 2.7 million shares of Plug Power common stock (see Note 11 – Shareholders' Equity).

The principal components of the Company's securities available for sale consist of the following:

(Dollars in thousands, except share data)

<u>Security</u>	<u>Book Basis</u>	<u>Fair Value Adjustment</u>	<u>Recorded Fair Value</u>	<u>Quoted Market Price Per NASDAQ</u>	<u>Ownership</u>	<u>Shares</u>
<u>December 31, 2004</u>						
Plug Power:						
Current	\$ 5,141	\$12,537	\$17,678	\$6.11	3.95%	2,893,227
Restricted <sup>(1)</sup>	<u>4,797</u>	<u>11,700</u>	<u>16,497</u>	\$6.11	<u>3.69%</u>	<u>2,700,000</u>
	<u>\$ 9,938</u>	<u>\$24,237</u>	<u>\$34,175</u>		<u>7.64%</u>	<u>5,593,227</u>
<u>December 31, 2003</u>						
Plug Power	<u>\$10,791</u>	<u>\$33,240</u>	<u>\$44,031</u>	\$ 7.25	8.36%	6,073,227

<sup>(1)</sup> In connection with the amended private placement agreement, the Company has deposited 2.7 million shares of Plug Power common stock into escrow.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**7. Securities Available for Sale (Continued)**

The book basis roll forward of Plug Power and SatCon common stock as of December 31 is as follows:

***Plug Power – Current (beginning December 20, 2002)***

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Securities available for sale, beginning of period	\$10,791	\$14,344
Sale of shares	(853)	(3,553)
Transfer 3,000,000 shares to restricted on 1/29/04	(5,330)	-
Transfer 300,000 shares from restricted on 5/6/04	<u>533</u>	<u>-</u>
Securities book basis	5,141	10,791
Unrealized gain on securities available for sale	<u>12,537</u>	<u>33,240</u>
Securities available for sale, end of period	<u>\$17,678</u>	<u>\$44,031</u>

***Plug Power – Restricted***

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Securities available for sale, beginning of period	\$ -	\$ -
Transfer 3,000,000 shares from current on 1/29/04	5,330	-
Transfer 300,000 shares to current on 5/6/04	<u>(533)</u>	<u>-</u>
Securities book basis	4,797	-
Unrealized gain on securities available for sale	<u>11,700</u>	<u>-</u>
Securities available for sale – restricted, end of period	<u>\$16,497</u>	<u>\$-</u>

Accumulated net unrealized gains (losses) related to securities available for sale for each of the years ended December 31 are as follows:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Accumulated unrealized gains	\$24,237	\$ 33,240
Accumulated deferred tax expense on unrealized gains	<u>(9,695)</u>	<u>(13,296)</u>
Accumulated net unrealized gains	<u>\$14,542</u>	<u>\$ 19,944</u>

**8. Impairment Losses**

The Company regularly reviews its securities available for sale and holdings to determine if any declines in value of those securities available for sale and holdings are other than temporary. The Company assesses whether declines in the value of its securities and holdings in publicly traded companies, measured by comparison of the current market price of the securities to the carrying value of the Company's securities and holdings, are considered to be other than temporary based on factors that include (1) the length of time carrying value exceeds fair market value, (2) the Company's assessment of the financial condition and the near term prospects of the companies and (3) the Company's intent with respect to the securities and holdings.

The sluggish economy over the last few years has had a negative impact on the equity value of companies in the new energy sector, including our investments in SatCon and Beacon, and based on the results of the reviews described above it was determined that the value of these publicly traded investments had declined for at least two consecutive quarters and there was no indication of an immediate recovery. As a result, a determination was made that the decline in value was likely to continue and it was appropriate to record adjustments for other than temporary declines in their value based on the then public market values. The Company recorded other than temporary impairment charges with respect to its securities available for sale and holdings in publicly traded companies. Pre-tax impairment losses are recorded in

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**8. Impairment Losses (Continued)**

the Statement of Operations line titled Equity in Holdings' Losses, Net of Tax for equity investments (see Note 14- Equity in Holdings' Losses, Net of Tax) and in the line titled Impairment losses for securities available for sale. Impairment losses are as follows:

(Dollars in thousands)	Year Ended Dec. 31, <u>2004</u>	Year Ended Dec. 31, <u>2003</u>	Year Ended Dec. 31, <u>2002</u>
Securities available for sale (SatCon)	\$ -	\$ (418)	\$ (668)
Securities available for sale (Beacon)	<u>-</u>	<u>-</u>	<u>(4,984)</u>
	<u>\$ -</u>	<u>\$(418)</u>	<u>\$(5,652)</u>

**9. Income Taxes**

Deferred tax assets and liabilities are determined based on the temporary differences between the financial statement and tax bases of assets and liabilities as measured by the enacted tax rates.

Income tax benefit (expense) for each of the years ended December 31 consists of the following:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>	<u>2002</u>
Continuing operations before equity holdings' losses			
Federal	\$ 96	\$ -	\$ 625
State	(95)	(2)	(264)
Deferred	<u>3,563</u>	<u>671</u>	<u>(728)</u>
	<u>3,564</u>	<u>669</u>	<u>(367)</u>
Equity in holdings' losses			
Deferred	<u>-</u>	<u>-</u>	<u>5,553</u>
Total continuing operations	<u>3,564</u>	<u>669</u>	<u>5,186</u>
Discontinued operations			
Deferred	<u>-</u>	<u>(8)</u>	<u>(154)</u>
Total discontinued operations	<u>-</u>	<u>(8)</u>	<u>(154)</u>
Total	<u>\$ 3,564</u>	<u>\$ 661</u>	<u>\$ 5,032</u>

Income tax benefit (expense) allocated directly to shareholders' equity for each of the years ended December 31 is as follows:

Increase in additional paid-in capital for equity holdings, and warrants and options issued – Deferred tax expense	\$ -	\$ -	\$ (227)
Derivative deferred tax	696	-	-
Increase in unrealized (gain) loss on available for sale securities - Deferred tax (expense) benefit	3,601	(4,516)	(8,781)
Expenses for employee stock options recognized differently for financial reporting/tax purposes – Federal tax benefit	<u>294</u>	<u>223</u>	<u>55</u>
	<u>\$4,591</u>	<u>\$(4,293)</u>	<u>\$(8,953)</u>

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**9. Income Taxes (Continued)**

The significant components of deferred income tax benefit (expense) for each of the years ended December 31 consists of the following:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>	<u>2002</u>
Continuing operations			
Deferred tax benefit (expense)	\$ (570)	\$(1,324)	\$(709)
Net operating loss carry forward	4,133	1,995	673
Valuation allowance	<u>-</u>	<u>-</u>	<u>(692)</u>
	<u>3,563</u>	<u>671</u>	<u>(728)</u>
Equity in holdings' losses			
Deferred tax benefit	<u>-</u>	<u>-</u>	<u>5,553</u>
	<u>-</u>	<u>-</u>	<u>5,553</u>
Discontinued operations			
Deferred tax expense	<u>-</u>	<u>(8)</u>	<u>(154)</u>
	<u>\$ 3,563</u>	<u>\$ 663</u>	<u>\$ 4,671</u>

The Company's effective income tax rate from continuing operations, including equity in holdings' losses, differed from the Federal statutory rate for each of the years ended December 31 is as follows:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Federal statutory tax rate	34%	34%	34%
State taxes, net of federal tax effect	5	6	5
Change in valuation allowance	-	-	(5)
Research and development credit	-	-	-
Other, net	<u>-</u>	<u>(1)</u>	<u>7</u>
	<u>39%</u>	<u>39%</u>	<u>41%</u>

Pre-tax loss from continuing operations before minority interests, including pre-tax losses from equity holdings, was \$9,121, \$1,731 and \$12,790 thousand for 2004, 2003 and 2002, respectively.

The deferred tax assets and liabilities as of December 31 consist of the following tax effects relating to temporary differences and carry forwards:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Current deferred tax (liabilities) assets:		
Bad debt reserve	\$ 23	\$ 264
Inventory valuation	27	3
Inventory capitalization	13	20
Securities available for sale	(5,964)	(15,289)
Vacation pay	176	181
Warranty and other sale obligations	15	11
Stock options	-	269
Other reserves and accruals	<u>224</u>	<u>60</u>
Net current deferred tax liabilities	<u>\$ (5,486)</u>	<u>\$(14,481)</u>

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**9. Income Taxes (Continued)**

(Dollars in thousands)

Noncurrent deferred tax assets (liabilities):		
Net operating loss	\$9,918	\$ 5,785
Property, plant and equipment	(166)	(145)
Securities available for sale – restricted	(5,566)	-
Stock options	259	-
Derivatives	450	-
Other	239	239
Research and development tax credit	459	459
Alternative minimum tax credit	<u>54</u>	<u>150</u>
	5,647	6,488
Valuation allowance	<u>(1,836)</u>	<u>(1,836)</u>
Noncurrent net deferred tax assets	<u>\$ 3,811</u>	<u>\$ 4,652</u>
Other credits	<u>\$ (24)</u>	<u>\$ (24)</u>

The valuation allowance at December 31, 2004 and 2003 was \$1,836 thousand. The valuation allowance reflects the estimate that it is more likely than not that certain net operating losses may be unavailable to offset future taxable income.

At December 31, 2004, the Company has unused Federal net operating loss carry forwards of approximately \$24,727 thousand. The Federal net operating loss carry forwards, if unused, will begin to expire in 2010. The use of \$1,014 thousand of loss carry forwards is limited on an annual basis, pursuant to the Internal Revenue Code, due to certain changes in ownership and equity transactions, which occurred in 1997. For the year ended December 31, 2004, the Company has approximately \$459 thousand of research and development tax credit carry forwards, which begin to expire in 2018, and approximately \$54 thousand of alternative minimum tax credit carry forwards, which have no expiration date.

**10. Accrued Liabilities**

Accrued liabilities consist of the following at December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Salaries, wages and related expenses	\$ 588	\$ 556
Acquisition and disposition costs	363	363
Legal and professional fees	384	300
Warranty and other sale obligations	38	28
Commissions	33	54
Litigation settlement	35	-
Deferred revenue	479	50
Accrued contract losses	557	-
Cash overdraft	390	-
Other	<u>420</u>	<u>177</u>
	<u>\$3,287</u>	<u>\$1,528</u>

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**11. Shareholders' Equity**

***Common Shares***

Changes in common shares for the years ended December 31 are as follows:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Balance, beginning	35,776,510	35,648,135	35,505,235
Issuance of shares for stock option exercises	193,768	128,375	92,900
Issuance of shares in private placement	2,680,671	-	-
Issuance of shares for restricted stock grant	<u>-</u>	<u>-</u>	<u>50,000</u>
Balance, ending	<u>38,650,949</u>	<u>35,776,510</u>	<u>35,648,135</u>

***Treasury Stock***

Changes in treasury stock for the years ended December 31 are as follows:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Balance, beginning	8,035,974	8,020,250	20,250
Shares acquired for cash	4,762	15,724	-
Shares acquired as part of a share exchange transaction (see Note 17)	<u>-</u>	<u>-</u>	<u>8,000,000</u>
Balance, ending	<u>8,040,736</u>	<u>8,035,974</u>	<u>8,020,250</u>

***Warrants Issued***

On February 5, 2004, the Company issued to Chicago Investment Group, L.L.C. a warrant to purchase 28,377 shares of the Company's common stock at an exercise price of \$10.572 per share. The estimated fair value of this warrant at the date issued was \$1.39 per share, using a Black Scholes Option-Pricing Model and assumptions similar to those used for valuing the Company's stock options. The warrant may not be exercised until February 5, 2005 and expires on February 5, 2006.

The Company issued to SatCon warrants to purchase 108,000 and 192,000 shares of the Company's common stock on October 21, 1999 and January 31 2000, respectively. The warrants were immediately exercisable at \$12.56 per share. The estimated fair value of these warrants at the dates issued were \$4.94 and \$16.38 per share, respectively, using a Black-Scholes option pricing model and assumptions similar to those used for valuing the Company's stock options. The warrants to purchase the 108,000 shares expired unexercised on October 21, 2003 and the warrants to purchase the 192,000 shares expired unexercised on January 31, 2004.

***Reservation of Shares***

The Company has reserved common shares for future issuance as of December 31, 2004 as follows:

Stock options outstanding	3,752,063
Stock options available for issuance	2,632,901
Additional Investment Rights as required by the 2004 private placement agreement	3,943,218
Warrants outstanding	<u>28,377</u>
Number of common shares reserved	<u>10,356,559</u>

***Completion of Option Exchange***

On December 22, 2003, the Company announced the completion of the first phase of its stock option exchange offer. A total of 757,000 options with an average exercise price of approximately \$19 per share were tendered by employees and

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**11. Shareholders' Equity** (Continued)

then cancelled by the Company in exchange for the future issuance of options at a one-for-two ratio. New options totaling 341,000 were issued in the final phase of the exchange offer on June 23, 2004 at an exercise price of \$6.17 per share to employees and directors who were employed by the Company or served as directors of the Company from December 22, 2003, the acceptance date, through June 23, 2004.

***Sale of Common Stock***

***Private Placement***

On January 29, 2004, the Company issued to Fletcher International, Ltd., or Fletcher, in a private placement (1) 1,418,842 shares of our common stock for an aggregate purchase price of \$10 million, or \$7.048 per share, and (2) rights to purchase up to an additional \$26 million of our common stock and in certain instances up to 3,000,000 shares of Plug Power Inc. (NASDAQ:PLUG) common stock owned by us, which rights are referred to herein as the additional investment rights.

On May 4, 2004, the Company amended its agreement with Fletcher. This agreement, as amended, ("the 2004 private placement") includes a change in the exercise price for the rights to purchase additional shares of MTI common stock to a fixed price of \$6.34 per share from, in the original agreement, \$7.048 per share until December 31, 2005 and the lesser of \$7.048 per share or a variable price in 2006. The price is subject to adjustment upon the occurrence of certain limited events. The amended terms also included: (1) an increase in the rights to purchase additional shares of MTI common stock to \$28 million from \$26 million, (2) a reduction in Fletcher's right to purchase Plug Power common stock escrowed by the Company to a maximum of 2,700,000 shares from a maximum of 3,000,000 shares, (3) an extension of the exercise period for the right to purchase Plug Power common stock to one or more purchases between June 1, 2005 and December 31, 2006 from a one-time purchase in June of 2005, (4) an extension of MTI's ability to withdraw Plug Power common stock from escrow through December 31, 2006 instead of through June 30, 2005 and (5) an extension of the exercise period for the right to invest the first \$8 million in MTI's common stock to any time prior to December 31, 2004 from any time prior to ninety business days after the effective date of MTI's registration statement.

On May 20, 2004, the SEC declared effective the Company's registration statement covering the resale of the 1,418,842 shares issued to Fletcher.

On December 22, 2004, the Company sold 1,261,829 shares of its common stock to Fletcher for an aggregate purchase price of \$8 million (or \$6.34 per share) in connection with Fletcher's exercise of an additional investment right. Pursuant to additional investment rights and after giving effect to the 1,261,829 shares of common stock the Company issued to Fletcher on December 22, 2004, Fletcher has the right, but not the obligation, to purchase, in a single purchase or multiple purchases, up to an additional \$20 million of our common stock at any time prior to December 31, 2006 at a price per share equal to \$6.34, which date and price may be extended and adjusted, respectively, in the event that we have not satisfied our contractual obligations with respect to the registration for resale of common stock issued or issuable to Fletcher and upon the occurrence of certain events. Fletcher also has the right to purchase in a single or multiple purchases, up to 2,700,000 share of Plug Power common stock owned by the Company. On January 6, 2005, we filed with the SEC a registration statement for the registration of the 1,261,829 shares of our common stock issued to Fletcher in order to permit Fletcher to resell such shares.

***Additional Investment Rights***

The additional investment rights provide Fletcher with the right, but not the obligation, to purchase in a single purchase or multiple purchases, up to an additional \$20 million of our common stock at any time prior to December 31, 2006 at a price per share equal to \$6.34, which date and price may be extended and adjusted, respectively, in the event that we have not satisfied our contractual obligations with respect to the registration for resale of common stock issued or issuable to Fletcher.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**11. Shareholders' Equity** (Continued)

The table below illustrates the number of shares Fletcher would receive upon exercise of its \$20 million additional investment right at a price per share equal to \$6.34 (such exercise price is subject to adjustment as described below under “*Adjustment Provisions*”). Note that the Company's 2004 private placement agreement with Fletcher provides that the maximum number of shares we could potentially issue to Fletcher is 8,330,411 shares.

<u>Purchase Price MTI Stock</u>	<u>Shares Issuable in Exchange for \$20 Million Investment</u>
\$6.34	3,154,575

*Plug Power Shares*

The Company has 2,700,000 shares in escrow of Plug Power common stock that are available for purchase by Fletcher. Fletcher may, on one or multiple occasions, from June 1, 2005 to December 31, 2006, exercise its right to purchase from us a number of shares of Plug Power common stock totaling \$10,000,000 divided by the prevailing price per share of Plug Power common stock, but only to the extent of the number of shares remaining in escrow. Commencing immediately after the SEC declares effective the registration statement relating to shares of our common stock that Fletcher owns (or may acquire), we continue to have the right to have 250,000 of such shares released from escrow to us, on a monthly basis, in the event that on any day during such month, the prevailing price of our common stock exceeds \$6.343 (which price may have been adjusted to reflect stock splits, recombinations, stock dividends or the like).

The exercise price for the Plug Power investment right is \$10,000,000 less the positive difference between \$18,000,000 and the product of 2,680,671 shares multiplied by the prevailing price per share of our common stock on the date Fletcher elects to exercise such right, all divided by the quotient obtained by dividing 10,000,000 by the prevailing price of Plug Power common stock on the date Fletcher elects to exercise such right. As used herein, a prevailing price is the average of the daily volume-weighted average price per share of common stock during the sixty-business-day period ending three days prior to the date Fletcher elects to exercise such right, provided however that the price may not exceed the average of the daily volume-weighted average prices for any ten business days within such sixty-business-day period. Each of the above referenced per share exercise prices for the additional investment rights was subject to adjustment as described below under “*Adjustment Provisions*.”

As a result of this exercise price calculation, we may be required to sell shares of Plug Power at a discount to prices we would otherwise obtain in sales at market prices. The table below illustrates such potential discounts based on assumed decreases in our stock price from \$5.00 (which, for the purposes of this illustration, serves as an approximation of the price of our common stock) and an assumed price of Plug Power common stock at the time of exercise.

<u>MTI Price</u>	<u>Assumed Plug Price</u>	<u>Effective Exercise Price</u>	<u>Percentage Discount to Market</u>	<u>Plug Shares Purchased</u>	<u>Proceeds to MTI</u>
\$5.00	\$7.00	\$3.78	46%	1,428,571	\$5,399,998
\$4.50	\$7.00	\$2.84	59%	1,428,571	\$4,063,023
\$3.00	\$7.00	\$0.03	99%	1,428,571	\$ 42,016
\$1.50	\$7.00	\$ -	100%	1,428,571	\$ -

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**11. Shareholders' Equity (Continued)**

*Adjustment Provisions*

The 2004 private placement agreement with Fletcher also provides that the Company may be required to issue additional shares to Fletcher, reduce the exercise prices described above for the additional investment rights and/or extend the investment term upon the occurrence of certain events (each as more fully described below) including:

- a restatement of our financial results,
- a change in control of our company,
- a future issuance of our capital stock at a price less than \$7.048 as it relates to the initial \$10 million investment and \$6.34 as it relates to all additional investments, or
- our failure to maintain the effectiveness of the registration statement relating to shares of our common stock that Fletcher owns or may acquire, as well as our failure to satisfy the other requirements relating to registration.

*Restatement*

In the event we restate any portion of our financial statements prior to January 29, 2005, or prior to the first anniversary of the closing of any additional investment, as the case may be, the exercise price for the additional investment rights will be adjusted to equal the prevailing price of our common stock sixty days after we restate our financial statements. In addition, with respect to any investments made prior to the time of the restatement, Fletcher will receive additional shares of common stock such that all such investments will have been effectively made at such adjusted exercise price.

*Change in Control*

In the event of a change of control of our company prior to sixty days after the expiration of the additional investment term, we may have to issue additional shares of our common stock to Fletcher and the additional investment rights (including the right to purchase the Plug Power shares) may be accelerated. If the consideration per share paid to our shareholders in the change of control transaction is less than twice the amount of the price per share paid by Fletcher for any of its investments pursuant to the agreement with Fletcher or the certificate of additional investment rights, then we must issue to Fletcher a number of shares of our common stock such that all of its investments will have been effectively made at a price per share equal to such per share change of control consideration multiplied by 0.5.

*Dilutive Issuances*

If, after December 31, 2004 and ending December 31, 2006, we issue any equity securities at a price below \$7.048 as it relates to the initial \$10 million investment and \$6.34 as it relates to any additional investments which have been made, the exercise price for the additional investment rights shall be adjusted to provide Fletcher "weighted average" anti-dilution protection and we must issue to Fletcher a number of additional shares such that all prior investments will have been effectively made at such adjusted exercise price.

*Registration Obligations*

In the event we fail to satisfy our contractual obligations to register for resale shares of common stock issued or issuable to Fletcher, then we must issue to Fletcher a number of additional shares to reflect the number of shares it would have acquired if its purchase price was based on the actual exercise price reduced by five percent for each month in which we fail to satisfy our obligations and adjust the exercise price for the additional investment rights to such lower price. In addition, such failure will result in an extension of the investment term for each day we fail to satisfy our registration obligations. These registration obligations include, among other things, maintaining the effectiveness of registration statements.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**11. Shareholders' Equity** (Continued)

*Other*

The 2004 private placement agreement also provides Fletcher certain other rights including, but not limited to, indemnification rights with respect to (1) breaches of representations, warranties and covenants contained in the agreements with Fletcher, and (2) misstatements in or omissions from the prospectus and the registration statement relating to shares of our common stock that Fletcher owns or may acquire.

*Placement and Amendment Fees*

In connection with the 2004 private placement, in February 2004 the Company paid placement fees, recorded in equity against the proceeds of the private placement, of \$600 thousand to Chicago Investment Group, L.L.C. and issued a warrant to purchase 28,377 shares of the Company's common stock at an exercise price of \$10.572 per share. The warrant may not be exercised until February 5, 2005 and expires on February 5, 2006. In connection with the amendment of the private placement, the Company paid advisory fees of \$300 thousand to Citigroup Global Markets Inc.

**12. Earnings per Share**

The following is the reconciliation of the numerators and denominators of the basic and diluted per share computations of loss from continuing operations for the years ended December 31:

(Dollars in thousands, except shares)	<u>2004</u>	<u>2003</u>	<u>2002</u>
Loss from continuing operations	\$ <u>(4,191)</u>	\$ <u>(572)</u>	\$ <u>(7,186)</u>
Basic EPS:			
Common shares outstanding, beginning of period	27,740,536	27,627,885	35,484,760
Weighted average common shares issued during the period	1,424,259	30,905	47,893
Unvested restricted common stock	-	-	(9,726)
Weighted average common shares reacquired during the period	<u>(3,617)</u>	<u>(2,800)</u>	<u>(263,014)</u>
Weighted average shares outstanding	<u>29,161,178</u>	<u>27,655,990</u>	<u>35,259,913</u>
Loss from continuing operations per weighted average share	\$ <u>(.14)</u>	\$ <u>(.02)</u>	\$ <u>(.21)</u>
Diluted EPS:			
Common shares outstanding, beginning of period	27,740,536	27,627,885	35,484,760
Weighted average common shares issued during the period	1,424,259	30,905	47,893
Weighted average common shares reacquired during the period	<u>(3,617)</u>	<u>(2,800)</u>	<u>(263,014)</u>
Weighted average shares outstanding	<u>29,161,178</u>	<u>27,655,990</u>	<u>35,269,639</u>
Loss from continuing operations per weighted average share	\$ <u>(.14)</u>	\$ <u>(.02)</u>	\$ <u>(.21)</u>

During 2004, options to purchase 3,752,063 shares of common stock at prices ranging from \$0.54 to \$20.92 per share, additional investment rights to purchase approximately 3,154,575 shares (\$20,000,000 divided by \$6.34 per share) of common stock with an exercise price of \$6.34 per share and warrants to purchase 28,377 shares of common stock with an exercise price of \$10.572 per share were outstanding but were not included in the computation of earnings per share assuming dilution because the Company incurred a loss from continuing operations during this period and inclusion would be anti-dilutive. The options expire between December 20, 2006, and December 16, 2014. Warrants for the purchase of 28,377 shares expire on February 5, 2006. Investment rights issued to Fletcher expire on December 31, 2006, subject to extension in certain instances.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**12. Earnings per Share** (Continued)

During 2003, options to purchase 2,875,150 shares of common stock at prices ranging from \$0.54 to \$20.92 per share and warrants to purchase 192,000 shares of common stock at \$12.56 per share were outstanding but were not included in the computation of earnings per share-assuming dilution because the Company incurred a loss from continuing operations during this period and inclusion would be anti-dilutive. The options expire between December 20, 2006, and September 8, 2013. The warrants expired unexercised on January 31, 2004.

During 2002, options to purchase 3,327,525 shares of common stock at prices ranging from \$0.54 to \$21.92 per share and warrants to purchase 300,000 shares of common stock at \$12.56 per share were outstanding but were not included in the computation of earnings per share-assuming dilution because the Company incurred a loss from continuing operations during this period and inclusion would be anti-dilutive. The options expire between December 20, 2006 and November 19, 2012. Warrants for the purchase of 108,000 shares expired unexercised on October 21, 2003 and warrants for the purchase of 192,000 shares expired unexercised on January 31 2004.

**13. Stock Based Compensation**

**MTI Option Plans**

The 1999 Employee Stock Incentive Plan ("1999 Plan") was approved by shareholders during March 1999. The 1999 Plan provides that an initial aggregate number of 1 million shares of common stock may be awarded or issued. The number of shares which may be awarded under the 1999 Plan and awards outstanding have been adjusted for stock splits, and during 2004, 2003 and 2002, the total number of shares which may be awarded under the 1999 Plan were 4,500,000 shares. Under the 1999 Plan, the Board of Directors is authorized to award stock options to officers, employees and others.

The 1996 Stock Incentive Plan ("1996 Plan") was approved by shareholders during December 1996. The 1996 Plan provides that an initial aggregate number of 500,000 shares of common stock may be awarded or issued. The number of shares which may be awarded under the 1996 Plan may be increased by 10% of any increase in the number of outstanding shares of common stock for reasons other than shares issued under this 1996 Plan. The number of shares which may be awarded under the 1996 Plan and awards outstanding have been adjusted for stock splits and rights offerings, and during 2004, 2003 and 2002, the total number of shares which may be awarded under the 1996 Plan were 3,478,746 shares. Under the 1996 Plan, the Board of Directors is authorized to award stock options, stock appreciation rights, restricted stock, and other stock-based incentives to officers, employees and others.

Options are generally exercisable in from one to four cumulative annual amounts beginning 12 months after the date of grant. Certain options granted may be exercisable immediately or begin vesting immediately. Restricted stock awards generally vest in one to four cumulative annual amounts beginning 12 months after the award date. Certain restricted stock awards may vest over a shorter period of time. Option exercise prices are not less than 85 percent of the market value of the Company's common stock on the date of grant. Unexercised options generally terminate ten years after date of grant. The Company has elected to follow APB Opinion No. 25, *Accounting for Stock Issued to Employees*, and related Interpretations, in accounting for employee stock-based compensation and to provide the disclosures required under SFAS No. 123, *Accounting for Stock Based Compensation*. APB Opinion No. 25 requires no recognition of compensation expense for most of the stock-based compensation arrangements provided by the Company, namely, broad-based employee stock purchase plans and option grants where the exercise price is equal to or not less than 85 percent of the market value at the date of grant. However, APB Opinion No. 25 requires recognition of compensation expense for variable award plans over the vesting periods of such plans, based upon the then-current market values of the underlying stock. In contrast, SFAS No. 123 requires recognition of compensation expense for grants of stock, stock options, and other equity instruments, over the vesting periods of such grants, based on the estimated grant-date fair values of those grants.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**13. Stock Based Compensation (Continued)**

On December 22, 2003, the Company announced the completion of the first phase of its stock option exchange offer. A total of 757,000 options with an average exercise price of approximately \$19 per share were tendered by employees and then cancelled by the Company in exchange for the future issuance of options at a one-for-two ratio. New options totaling 341,000 were issued in the final phase of the exchange offer on June 23, 2004 at an exercise price of \$6.17 per share to employees and directors who were employed by the Company or served as directors of the Company from December 22, 2003, the acceptance date, through June 23, 2004.

During 2002, the Company awarded 50,000 restricted shares of common stock which vested over a one-year period. During 2000, the Company awarded 60,000 options to acquire common stock to consultants. Certain of these shares underlying options vest over a four-year period. Presented below is a summary of compensation expense recorded in "Selling, general and administrative expenses" in the Consolidated Statements of Operations for each of the years ended December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>	<u>2002</u>
SFAS 123 – Consultants	\$ -	\$ 32	\$ 49
Restricted stock	-	40	10
APB No. 25 –stock option compensation	<u>-</u>	<u>-</u>	<u>-</u>
Total compensation expense	<u>\$ -</u>	<u>\$ 72</u>	<u>\$ 59</u>

Presented below is a summary of the Company's stock option plans' activity for the years ended December 31:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Shares under option, beginning	2,875,150	3,327,525	3,199,175
Granted	1,097,500	439,750	280,000
Exercised	(193,768)	(128,375)	(92,900)
Canceled	<u>(26,819)</u>	<u>(763,750)</u>	<u>(58,750)</u>
Shares under option, ending	<u>3,752,063</u>	<u>2,875,150</u>	<u>3,327,525</u>
Options exercisable	3,331,968	2,511,650	2,776,835
Remaining shares available for granting of options	2,632,901	3,703,582	3,379,582

The weighted average exercise price is as follows for each of the years ended December 31:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Shares under option, beginning	\$3.29	\$ 7.01	\$7.15
Granted:			
Exercise price equal to fair market value at grant date	5.72	2.04	2.77
Exercised	2.11	1.72	1.19
Canceled	3.70	19.01	3.63
Shares under option, ending	4.06	3.29	7.01
Options exercisable, ending	4.03	3.45	6.60

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**13. Stock Based Compensation (Continued)**

The following table summarizes information for options outstanding and exercisable at December 31, 2004:

<u>Options Outstanding</u>			<u>Options Exercisable</u>		
<b>Exercise Price Range</b>	<b>Number</b>	<b>Weighted Average Remaining Contractual Life</b>	<b>Weighted Average Exercise Price</b>	<b>Number</b>	<b>Weighted Average Exercise Price</b>
\$ 0.54 - \$ 0.76	293,925	2.5	\$ 0.67	293,925	\$ 0.67
\$ 0.98 - \$ 1.33	509,375	4.1	\$ 1.27	496,875	\$ 1.28
\$ 1.65 - \$ 2.03	586,013	6.4	\$ 1.87	437,168	\$ 1.84
\$ 2.62 - \$ 3.42	591,250	6.1	\$ 3.06	579,000	\$ 3.06
\$4.00 - \$4.40	625,000	6.1	\$ 4.14	599,500	\$ 4.14
\$6.01 - \$6.40	875,000	7.6	\$ 6.17	654,000	\$ 6.17
\$9.25 - \$12.96	211,500	5.5	\$10.65	211,500	\$10.65
\$20.92	<u>60,000</u>	2.9	\$20.92	<u>60,000</u>	\$20.92
	<u>3,752,063</u>	5.8	\$ 4.06	<u>3,331,968</u>	\$ 4.03

The fair value of options granted, which is amortized to expense over the option vesting period in determining the pro forma impact, is estimated on the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions for each of the years ended December 31:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Expected life of option	5 yrs	5 yrs	5 yrs
Risk-free interest rate	3.77%	2.88%	4.33%
Expected volatility of the Company's stock	80.8%	93.4%	97%
Expected dividend yield on the Company's stock	0%	0%	0%

The weighted average fair value of options granted for each of the years ended December 31 is as follows:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Fair value of each option granted	\$ 3.93	\$ 1.48	\$ 2.09
Number of options granted	1,097,500	439,750	280,000
Fair value of all options granted	\$4,133,652	\$650,830	\$585,200

In accordance with SFAS No. 123, the weighted average fair value of stock options granted is required to be based on a theoretical statistical model using the preceding Black-Scholes assumptions.

The weighted average fair value of restricted stock granted for each of the years ended December 31 is as follows:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Fair value of each option granted	\$ -	\$ -	\$ 1
Number of options granted	-	-	50,000
Fair value of all options granted	\$ -	\$ -	\$50,000

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**13. Stock Based Compensation (Continued)**

**MTI Micro Option Plan**

The MTI MicroFuel Cells Inc. 2001 Employee, Director and Consultant Stock Option Plan (Amended and Restated as of September 23, 2004) (“2001 MTI Micro Plan”) was approved by MTI Micro’s shareholders in 2001. The 2001 MTI Micro Plan provides that an initial aggregate number of 1,766,000 shares of MTI Micro common stock may be awarded. The number of shares which may be awarded under the 2001 MTI Micro Plan may be and has been increased by MTI Micro’s Board of Directors. The number of shares which may be awarded under the 2001 MTI Micro Plan and awards outstanding have been adjusted for a reverse stock split, and during 2004, 2003 and 2002, the total number of shares which may be awarded under the 2001 MTI Micro Plan were 3,416,667, 2,166,667, and 1,766,000 shares. Under the 2001 MTI Micro Plan, the MTI Micro Board of Directors is authorized to award stock options to officers, directors, employees and consultants.

Options are generally exercisable in from one to four cumulative annual amounts beginning 12 months after the date of grant. Certain options granted may be exercisable immediately or begin vesting immediately. Option exercise prices are determined by MTI Micro’s Board of Directors. Unexercised options generally terminate ten years after date of grant. MTI Micro has elected to follow APB Opinion No. 25, *Accounting for Stock Issued to Employees*, and related Interpretations, in accounting for employee stock-based compensation and to provide the disclosures required under SFAS No. 123, *Accounting for Stock Based Compensation*. APB Opinion No. 25 requires no recognition of compensation expense for most of the stock-based compensation arrangements provided by MTI Micro, namely, broad-based employee stock purchase plans and option grants where the exercise price is equal to or not less than 85 percent of the market value at the date of grant. However, APB Opinion No. 25 requires recognition of compensation expense for variable award plans over the vesting periods of such plans, based upon the then-current market values of the underlying stock. In contrast, SFAS No. 123 requires recognition of compensation expense for grants of stock, stock options, and other equity instruments, over the vesting periods of such grants, based on the estimated grant-date fair values of those grants.

Presented below is a summary of compensation expense recorded in “Selling, general and administrative expenses” in the Consolidated Statements of Operations for each of the years ended December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>	<u>2002</u>
APB No. 25 – stock option compensation	\$ <u>8</u>	\$ <u>-</u>	\$ <u>-</u>
Total compensation expense	\$ <u>8</u>	\$ <u>-</u>	\$ <u>-</u>

Presented below is a summary of the 2001 MTI Micro stock option plans activity for the years ended December 31:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Shares under option, beginning	1,570,711	496,687	62,838
Granted	1,508,110	1,089,276	550,854
Exercised	(57,626)	(167)	-
Canceled	<u>(144,314)</u>	<u>(15,085)</u>	<u>(117,005)</u>
Shares under option, ending	<u>2,876,881</u>	<u>1,570,711</u>	<u>496,687</u>
Options exercisable	604,881	266,810	79,837
Remaining shares available for granting of options	481,993	595,789	1,269,313

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**13. Stock Based Compensation (Continued)**

The weighted average exercise price for MTI Micro options is as follows for each of the years ended December 31:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Shares under option, beginning	\$ 2.94	\$ 3.75	\$3.00
Granted:			
Exercise price equal to fair market value at grant date	4.16	2.56	3.80
Exercise price less than fair market value at grant date	2.39	-	-
Exercised	3.28	3.80	-
Canceled	3.31	2.64	3.56
Shares under option, ending	3.00	2.94	3.75
Options exercisable, ending	3.14	3.71	3.73

The following table summarizes information for MTI Micro's options outstanding and exercisable at December 31, 2004:

<u>Options Outstanding</u>			<u>Options Exercisable</u>		
Exercise Price Range	Number	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number	Weighted Average Exercise Price
\$ 2.39 - \$2.55	1,859,239	6	\$ 2.47	302,011	\$ 2.55
\$ 2.76 - \$3.00	185,840	6	\$ 2.79	22,754	\$ 2.97
\$ 3.80 - \$4.66	<u>831,802</u>	6	\$ 4.23	<u>280,116</u>	\$ 3.80
	<u>2,876,881</u>	6	\$ 3.00	<u>604,881</u>	\$ 3.14

The fair value of MTI Micro options granted, which is amortized to expense over the option vesting period in determining the pro forma impact, is estimated on the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions for each of the years ended December 31:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Expected life of option	5 yrs	5 yrs	5 yrs
Risk-free interest rate	3.77%	2.88%	4.33%
Expected volatility of the MTI Micro's stock	80.8%	93.4%	97%
Expected dividend yield on MTI Micro's stock	0%	0%	0%

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**13. Stock Based Compensation (Continued)**

The weighted average fair value of MTI Micro options granted for each of the years ended December 31 is as follows:

	<u>2004</u>	<u>2003</u>	<u>2002</u>
Fair value of each option granted	\$ 3.11	\$ 2.56	\$ 3.80
Number of options granted	1,508,110	1,089,276	550,854
Fair value of all options granted	<u>\$3,851,202</u>	<u>\$2,069,936</u>	<u>\$1,533,292</u>

In accordance with SFAS No. 123, the weighted average fair value of stock options granted is required to be based on a theoretical statistical model using the preceding Black-Scholes assumptions.

**14. Equity in Holdings' Losses, Net of Tax**

The Company's proportionate share of losses, from holdings, net of tax, accounted for under the equity method for each of the years ended December 31 is as follows:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>	<u>2002</u>
Plug Power <sup>(A)</sup>	\$ -	\$ -	\$(5,683)
SatCon <sup>(B)</sup>	<u>-</u>	<u>-</u>	<u>(2,460)</u>
	<u>\$ -</u>	<u>\$ -</u>	<u>\$(8,143)</u>

<sup>(A)</sup> The accounting for the Company's holdings in Plug Power was changed on December 20, 2002 to fair value from the equity method (see Note 1).

<sup>(B)</sup> The Company's holdings in SatCon were accounted for on a one-quarter lag (through SatCon's quarter ended June 29, 2002) until accounting for the holdings was changed on July 1, 2002 to fair value from the equity method (see Note 1).

<u>Holding</u>	<u>Description of Business</u>
Plug Power	Plug Power designs and develops on-site energy systems based on proton exchange membrane fuel cells. The foregoing description is based on our review of certain publicly available information.
SatCon	SatCon Technology Corporation manufactures and sells power control systems for military systems, alternative energy and high-reliability industrial automation applications. Products include inverter electronics from 5 kilowatts to 5 megawatts, power switches, and hybrid microcircuits for industrial, medical, military and aerospace applications. SatCon also develops and builds digital power electronics, high-efficiency machines and control systems for a variety of defense applications. The foregoing description is based on our review of certain publicly available information.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**14. Equity in Holdings' Losses, Net of Tax (Continued)**

***Plug Power***

Summarized below is financial information for Plug Power whose fiscal year ends December 31.

(Dollars in thousands)	Year Ended Dec. 31, <u>2002</u>	Year Ended Dec. 31, <u>2001</u>	Unaudited Three Months Ended <u>December 31, 2001</u>
Current assets	\$ 67,135	\$ 100,565	\$ 100,565
Noncurrent assets	41,548	50,809	50,809
Current liabilities	10,259	10,199	10,199
Noncurrent liabilities	5,727	6,172	6,172
Stockholders' equity	92,697	135,003	135,003
Gross revenue	11,818	5,742	2,505
Gross profit (loss)	478	(5,549)	(2,207)
Net loss	(47,218)	(73,112)	(17,070)

***SatCon***

Summarized below is financial information for SatCon. SatCon's fiscal year ends September 30. The Company's holdings in SatCon were accounted for on a one-quarter lag, except for sales of common stock, which were effected as of the sale date.

(Dollars in thousands)	Year Ended <u>September 30, 2002</u>	Unaudited Nine Months Ended <u>June 29, 2002</u>	Unaudited Three Months Ended <u>December 29, 2001</u>
Current assets	\$22,189	\$25,046	\$35,352
Noncurrent assets	20,171	20,792	25,183
Current liabilities	11,217	11,445	12,131
Noncurrent liabilities	1,217	932	1,105
Stockholders' equity	29,926	33,461	47,299
Gross revenue	41,630	30,395	8,340
Gross profit	4,809	3,552	687
Net loss	(20,761)	(15,389)	(5,397)

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**15. Gain (Loss) on Sale of Securities Available for Sale, Net**

The Company sold shares of the following securities and recognized gains (losses) and proceeds for each of the years ended December 31 as follows:

(Dollars in thousands, except shares)	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b><i>Plug Power</i></b>			
Shares sold	480,000	2,000,000	35,000
Proceeds	\$ 4,479	\$ 10,251	\$ 163
Gross gain on sales	\$ 3,626	\$ 6,698	\$ 91
<b><i>SatCon</i></b>			
Shares sold	-	773,600	313,900
Proceeds	\$ -	\$ 1,403	\$ 392
Gross gain on sales	\$ -	\$ 785	\$ -
Gross loss on sales	\$ -	\$ -	\$ (95)
<b><i>Beacon Power</i></b>			
Shares sold	-	-	4,410,797
Proceeds	\$ -	\$ -	\$ 310
Gross loss on sales	\$ -	\$ -	\$(440)
Total net gain (loss) on sales	<u>\$ 3,626</u>	<u>\$ 7,483</u>	<u>\$ (444)</u>

**16. Gain on Sale of Holdings, Net**

The Company sold shares of the following equity holdings and recognized gains and proceeds for each of the years ended December 31 as follows:

(Dollars in thousands, except shares)	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b><i>Plug Power</i></b>			
Shares sold	-	-	1,165,000
Proceeds	\$ -	\$ -	\$ 9,059
Gross gain on sales	\$ -	\$ -	\$ 6,291
<b><i>SatCon</i></b>			
Shares sold	-	-	212,500
Proceeds	\$ -	\$ -	\$ 910
Gross gain on sales	\$ -	\$ -	\$ 78
Total net gain on sales	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 6,369</u>

**17. Share Exchange Transaction**

On December 20, 2002, the Company and First Albany Companies Inc. ("FAC"), an investor in the Company since 1995, completed a share exchange transaction whereby FAC exchanged 8 million shares of the Company's common stock owned by FAC for 2,721,088 shares of Plug Power common stock owned by the Company. As a condition of the exchange, FAC agreed not to sell its remaining shares of the Company's common stock for two years. This lockup agreement expired in December 2004.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**17. Share Exchange Transaction** (Continued)

The Company recorded a gain on the exchange transaction of \$8,006 thousand and recorded treasury stock at a cost of \$13,606 thousand.

As a result of the transaction, effective December 20, 2002, the Company was no longer required to account for its remaining holdings in Plug Power under the equity method of accounting. Under the equity method of accounting, the Company was required to report its proportionate share of Plug Power's financial results.

**18. Retirement Plan**

The Company maintains a voluntary savings and retirement plan (Internal Revenue Code Section 401(k) Plan) covering substantially all employees. The Company plan allows eligible employees to contribute a percentage of their compensation and the Company makes additional voluntary contributions in amounts as determined by management and the Board of Directors. The investment of employee contributions to the plan is self-directed. The cost of the plan was \$242, \$187, and \$150 thousand for 2004, 2003 and 2002, respectively.

**19. Commitments and Contingencies**

*Litigation*

*Lawrence*

On September 9, 1998, Barbara Lawrence, the Lawrence Group, Inc. ("Lawrence"), and certain other Lawrence-related entities ("Plaintiffs") initially filed suit in the Bankruptcy Court and the United States District Court for the Northern District of New York which were subsequently consolidated in the District Court, against First Albany Corporation ("FAC"), Mechanical Technology, Dale Church, Edward Dohring, Beno Sternlicht, Alan Goldberg and George McNamee (former Directors of the Company), Marty Mastroianni (former President and Chief Operating Officer of the Company), and 33 other individuals ("Defendants") who purchased a total of 820,909 (2,462,727 shares post split) shares of the Company's stock from the Plaintiffs. The case concerns the Defendants' 1997 purchase of Mechanical Technology shares from the Plaintiffs at the price of \$2.25 per share (\$0.75 per share post split). FAC acted as Placement Agent for the Defendants in the negotiation and sale of the shares and in proceedings before the Bankruptcy Court for the Northern District of New York, which approved the sale in September 1997.

Plaintiffs claim that the Defendants failed to disclose material inside information concerning Plug Power, LLC to the Plaintiffs and therefore the \$2.25 per share (\$0.75 per share post split) purchase price was unfair. Plaintiffs are seeking damages of \$5 million plus punitive damages and costs. In April 1999, Defendants filed a motion to dismiss the amended complaint, which was denied by the Bankruptcy Court. On appeal in October 2000, Plaintiffs' cause of action was dismissed by the United States District Court for the Northern District of New York. In November 2000, Plaintiffs filed an appeal of that dismissal with the United States Court of Appeals for the Second Circuit. In June 2002, the Second Circuit Court of Appeals reversed the District Court decision and remanded the case for further consideration of the Plaintiff's claims as motions to modify the Bankruptcy Court sale order. The Plaintiff's claims have now been referred back to Bankruptcy Court for such consideration. In September 2003, the Bankruptcy Court issued an order permitting Plaintiffs to conduct limited discovery concerning how First Albany formed an opinion about the Company's stock up until the date the Stock Purchase Agreement was executed.

The Company believes the claims have no merit and intends to defend them vigorously. The Company cannot predict the outcome of the claims nor reasonably estimate a range of possible loss given the current status of the litigation. Accordingly, no amounts have been reserved for this matter.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**19. Commitments and Contingencies**

*Ling Electronics, Inc.*

On July 8, 2003, Donald R. Gililland, Sharon Gililland, Vernon Dunham and Jean Dunham, owners of 4890 E. La Palma Avenue, Anaheim, CA 92870 (“Plaintiffs”), the former location of Ling Electronics, Inc. (“Ling”), filed suit in the Superior Court of California for Orange County against SatCon Power Systems, Inc., a subsidiary of SatCon Technology Corporation (“SatCon”), and the Company. In September 2003, SatCon and the Company filed a joint answer to the complaint. In September 2004, the Company and SatCon each retained independent counsel.

The complaint alleges breach of the lease and, among other things, Ling's failure to maintain and repair the premises. Ling was a subsidiary of the Company until it was sold to SatCon Technology Corporation in 1999. The Plaintiffs allege that the correction and repair of the various breaches by SatCon and the Company of their obligations under the lease will exceed \$400,000. The building was leased from 1983 through lease expiration in 2003. The Company remained as a guarantor on the lease after the sale of Ling to SatCon.

During January 2005, the Superior Court of California for Orange County approved a settlement of this lawsuit. On March 5, 2005, the Company entered into the settlement agreement. Pursuant to the Settlement, SatCon will pay \$240 thousand and the Company will pay \$35 thousand to the plaintiffs. The settlement released the Company from any future obligation and the settlement of this claim is accounted for in the results of operations for the year ended December 31, 2004 and will be paid in the Company’s first quarter 2005.

**Leases**

The Company and its subsidiaries lease certain manufacturing, laboratory and office facilities. The leases generally provide for the Company to pay either an increase over a base year level for taxes, maintenance, insurance and other costs of the leased properties or the Company’s allocated share of insurance, taxes, maintenance and other costs of leased properties. The leases contain renewal provisions.

Future minimum rental payments required under non-cancelable operating leases are (dollars in thousands): \$620 in 2005, \$472 in 2006, \$318 in 2007, \$316 in 2008 and \$289 in 2009. Rent expense under all leases was \$706, \$636 and \$536 thousand for 2004, 2003 and 2002, respectively. Contingent rent included in the rent expense amounts was \$53, \$46 and \$31 thousand for 2004, 2003 and 2002, respectively.

**Warranties**

Below is a reconciliation of changes in product warranty liabilities at December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>
Balance, beginning of period	\$ 28	\$ 54
Accruals for warranties issued	38	55
Accruals related to pre-existing warranties (including changes in estimates)	(16)	(66)
Settlements made (in cash or in kind)	<u>(12)</u>	<u>(15)</u>
Balance, end of period	<u>\$ 38</u>	<u>\$ 28</u>

**Licenses**

The Company licenses, on a non-exclusive basis, certain DMFC technology from Los Alamos National Laboratory. Under this agreement, the Company is required to pay future minimum annual license fees of \$250 thousand annually through 2019. Once products are being sold, royalties will be based on 2% of the first \$50 million of net sales, 1% on

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**19. Commitments and Contingencies (Continued)**

net sales in excess of \$50 million but less than \$100 million and .5% on net sales in excess of \$100 million. License payments made in any year can be applied against royalties due and total annual fees in any year shall not exceed \$1 million.

***Employment Agreements***

The Company has employment agreements with certain employees that provide severance payments and accelerated vesting of certain options upon termination of employment under certain circumstances, as defined in the applicable agreements. As of December 31, 2004, the Company's potential minimum obligation to these employees was approximately \$1,040 thousand.

***Guaranty of Subsidiary Funding***

In connection with the Strategic Alliance Agreement between MTI Micro and Gillette, the Company guaranteed additional investments in its subsidiary, MTI Micro, of up to \$20 million before September 19, 2005, if other sources of funding are not available. Immediately prior to the Gillette transaction closing in September 2003, the Company invested \$11 million (\$7.4 million in cash and \$3.6 million through the conversion of a loan receivable to equity) of its \$20 million commitment in MTI Micro common stock. In October 2003, Jeong Kim, an MTI Micro board member, invested \$1 million in MTI Micro common stock and on April 7, 2004, the Company invested \$15 million into MTI Micro fulfilling its guaranty obligation.

The Company also agreed not to assert any defenses that it might have arising out of or related to the Investment Company Act ("Investment Company Defense") to any "claim, action, cause of action, suit, litigation, arbitration, charge, complaint, demand, notice or proceeding brought by Gillette, and to defend, indemnify and hold Gillette and the Gillette indemnities harmless for all losses arising out of or related to non-compliance with the Investment Company Act. Because the Company has already paid the full amount of the \$20 million guarantee and agreed not to assert an Investment Company Defense, the Company's liability pursuant to this indemnification is likely to be zero.

***Investment Company Act***

The Company's securities available for sale constitute investment securities under the Investment Company Act of 1940 (the "Investment Company Act"). In general, a company may be deemed to be an investment company if it owns investment securities with a value exceeding 40% of its total assets, subject to certain exclusions and exemptions. Investment companies are subject to registration under, and compliance with, the Investment Company Act unless a particular exemption or safe harbor provision applies. If the Company were to be deemed an investment company, the Company would become subject to the requirements of the Investment Company Act. As a consequence, the Company would be prohibited from engaging in certain businesses or issuing certain securities, certain of our contracts might be voidable, and the Company might be subject to civil and criminal penalties for noncompliance.

Until fiscal 2001, the Company qualified for a safe harbor exemption under the Investment Company Act based upon the level of ownership of shares of Plug Power and influence over its management or policies. However, since the Company sold some of its shares of Plug Power during fiscal 2001, this safe harbor exemption may not be available.

On December 3, 2001, the Company made an application to the Securities and Exchange Commission ("SEC") requesting that they either declare that the Company is not an investment company because it is primarily engaged in another business or exempt it from the provisions of the Investment Company Act for a period of time. The Company amended this application on October 20, 2003. This application is pending. If the Company's application is not granted, the Company will have to find another safe harbor or exemption that it can qualify for, which may include a one-year safe harbor granted by the Investment Company Act, or become an investment company subject to the regulations of the Investment Company Act.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**19. Commitments and Contingencies** (Continued)

If the Company was deemed to be an investment company and could not find another safe harbor or exemption and failed to register as an investment company, the SEC could require the Company to sell its interest in Plug Power until the value of its securities available for sale are reduced below 40% of total assets. This could result in sales of securities in quantities of shares at depressed prices and the Company may never realize anticipated benefits from, or may incur losses on, these sales. Also, in connection with the strategic alliance agreement with Gillette, the Company has agreed to indemnify Gillette against any losses arising out of or related to the Company's noncompliance with the Investment Company Act or any regulations thereunder.

Further, the Company may be unable to sell some securities due to contractual or legal restrictions or the inability to locate a suitable buyer. Moreover, the Company may incur tax liabilities when selling assets.

***Contract Losses***

During 2004, MTI Micro entered into a fixed price-cost type completion contract with the Army. The contract which totals \$250 thousand permits monthly cost progress payments and calls for the delivery of five DMFC power system units. These prototypes require substantial engineering to meet the performance requirements of the customer. At the end of 2004, MTI Micro forecasted that the contract would be completed during 2005 and accrued \$540 thousand for the then anticipated cost needed to be incurred to complete the project. Although MTI Micro believes that it will complete this contract to the satisfaction of the customer, it is possible that MTI Micro will not be successful. Through monthly reports, MTI Micro updates the customer on accomplishments, technical issues, financial status, forecast to complete and anticipated solutions.

Additionally, other contracts have forecasted costs in excess of contract values as of the end of 2004. MTI Micro has accrued \$17 thousand for the then anticipated cost overruns for the projects.

**20. Related Party Transactions**

Management believes transactions among related parties are as fair to the Company as obtainable from unaffiliated third parties.

On March 29, 2004, the Company acquired 4,762 shares of its common stock from its then CEO, Dale Church, in connection with a revised tax liability of Mr. Church resulting from the vesting of restricted stock in October 2003. The Company had previously acquired 15,724 shares in connection with the payment of Mr. Church's original tax liability as reported on October 28, 2003.

On September 19, 2003, Gillette invested \$1 million in MTI Micro pursuant to a strategic alliance agreement and on October 29, 2003, Jeong Kim, a member of the board of directors of MTI Micro, invested \$1 million in MTI Micro. (See Notes 3 and 24)

On December 20, 2002, as a condition of the agreement to exchange 8 million shares of the Company's common stock owned by FAC for 2,721,088 shares of the Plug Power common stock owned by the Company, FAC agreed not to sell its remaining shares of the Company for two years ("lock-up agreement"). MTI waived this lock-up agreement in late December 2002 to permit FAC to gift shares to Albany, New York area charities. This lockup agreement expired in December 2004. (See Note 17)

During the twelve months ended December 31, 2002, FAC sold 662,705 shares of the Company's common stock in the public markets. FAC owned 2,916,040 shares or approximately 9.53% of the Company's common stock at December 31, 2004.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**20. Related Party Transactions (Continued)**

In connection with the NIST contract billings, as of December 31, 2004 and 2003, the Company has a liability to DuPont for approximately \$0 and \$47 thousand, respectively. The Company also purchases materials from DuPont; such purchases totaled \$253, \$190 and \$29 thousand in 2004, 2003 and 2002, respectively. The Company has a liability for materials purchases to DuPont as of December 31, 2004 and 2003 of \$0 and \$1 thousand, respectively. These liabilities are included in the financial statement line "Accrued liabilities – related parties." The Company has a net receivable due from DuPont for material purchases as of December 31, 2004 of \$2 thousand. This receivable is included in the financial statement line "Other receivables – related parties."

The Company was party to a management services agreement with First Albany Corporation, a wholly owned subsidiary of FAC, to provide certain services to the Company on a month-to-month basis. Under this agreement, FAC billed services to the Company (phone, network, postage, etc.) on a cost reimbursement basis through 2002. Billings under these agreements amounted to approximately \$11 thousand for 2002.

**21. Discontinued Operations**

The sale of the Company's Technology Division, the sole component of the Company's former Technology segment, to NYFM, Incorporated (a wholly-owned subsidiary of Foster-Miller, Inc., a Waltham, Massachusetts-based technology company) was completed on March 31, 1998. Accordingly, the Company no longer includes the Technology Division among its reportable business segments. The Technology Division has been reported as a discontinued operation since December 26, 1997. In exchange for the Technology Division's assets, NYFM, Incorporated (a) agreed to pay the Company a percentage of gross sales on an annual basis for a period of five years after the sale as follows: yearly combined gross sales (in excess of \$2.5 million) multiplied by .13, .053, .027, for years one, two and three-to-five, respectively; (b) assumed approximately \$40 thousand of liabilities; and (c) established a credit for warranty work of approximately \$35 thousand. The Company received approximately \$21 thousand as contingent sales proceeds from NYFM, Incorporated in both 2003 and 2002. Those amounts are included in the financial statement line, "Income from discontinued operations."

During the third quarter of 2002, the Company reversed \$358 thousand of the previously recorded loss on disposal of the Technology Division. The reversal included estimated reductions in warranty and accounts receivable reserves.

Discontinued operations for each of the years ended December 31 consists of the following:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>	<u>2002</u>
Sales	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>
Income from discontinued operations before income tax	-	\$ 21	\$ 21
Income tax expense	<u>-</u>	<u>(8)</u>	<u>-</u>
Net income from discontinued operations	\$ <u>-</u>	\$ <u>13</u>	\$ <u>21</u>
Gain on disposal of Division	\$ -	\$ -	\$ 358
Income tax expense	<u>-</u>	<u>-</u>	<u>(154)</u>
Net gain on disposal of Division	\$ <u>-</u>	\$ <u>13</u>	\$ <u>225</u>

There were no liabilities of the Company's discontinued operations as of December 31, 2004 and 2003.

**22. Geographic and Segment Information**

The Company sells its products on a worldwide basis with its principal markets listed in the table below where information on product revenue and funded research and development revenue is summarized by geographic area for the Company as a whole for each of the years ended December 31:

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**22. Geographic and Segment Information** (Continued)

(Dollars in thousands)

Geographic Area	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b>Product revenue:</b>			
United States	\$6,373	\$4,602	\$4,527
Europe	247	227	201
Japan	353	308	249
Pacific Rim	314	245	230
Israel	87	34	-
China	65	48	2
Canada	39	18	56
Rest of World	<u>52</u>	<u>65</u>	<u>97</u>
Total product revenue	<u>7,530</u>	<u>5,547</u>	<u>5,362</u>
<b>Funded research and development revenue:</b>			
United States	<u>1,040</u>	<u>2,311</u>	<u>1,573</u>
Total revenue	<u>\$8,570</u>	<u>\$7,858</u>	<u>\$6,935</u>

Revenues are attributed to regions based on the location of the customers.

Total product revenues contributed by product lines and their percentage of total product revenues for each of the years ended December 31 are shown below:

(Dollars in thousands)	<u>2004</u>		<u>2003</u>		<u>2002</u>	
	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>	<u>Percent</u>	<u>Dollars</u>	<u>Percent</u>
<b>Test and Measurement Instrumentation Products:</b>						
Aviation	\$4,027	53.48%	\$ 2,931	52.85%	\$ 2,816	52.52%
General Gaging	2,393	31.78%	2,289	41.26	2,282	42.56
Semiconductor	<u>1,110</u>	<u>14.74%</u>	<u>327</u>	<u>5.89</u>	<u>264</u>	<u>4.92</u>
Total	<u>\$7,530</u>	<u>100%</u>	<u>\$ 5,547</u>	<u>100%</u>	<u>\$ 5,362</u>	<u>100%</u>

The Company operates in two business segments, New Energy and Test and Measurement Instrumentation. The New Energy segment is focused on commercializing DMFCs. The Test and Measurement Instrumentation segment designs, manufactures, markets and services computer-based balancing systems for aircraft engines, high performance test and measurement instruments and systems, and wafer characterization tools for the semiconductor industry. The Company's principal operations are located in North America.

The accounting policies of the New Energy and Test and Measurement Instrumentation segments are the same as those described in the summary of significant accounting policies (See Note 1). The Company evaluates performance based on profit or loss from operations before income taxes, accounting changes, items management does not deem relevant to segment performance, and interest income and expense. Inter-segment sales are not significant.

In the Test and Measurement Instrumentation Segment, in 2004, the U.S. Air Force accounted for \$3.508 million or 46.7% of product revenues; in 2003, the U.S. Air Force accounted for \$2.261 million or 40.8% of product revenues; and in 2002, the U.S. Air Force accounted for \$1.854 million or 34.6% of product revenues and ASML accounted for \$.546 million or 10.2% of product revenues.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**22. Geographic and Segment Information** (Continued)

Summarized financial information concerning the Company's reportable segments is shown in the following table. The "Other" column includes corporate related items and items such as income taxes or unusual items, which are not allocated to reportable segments. The reconciling items column includes minority interests in a consolidated subsidiary and income tax allocation to equity in holdings' losses. In addition, segments' non-cash items include any depreciation and amortization in reported profit or loss. The New Energy segment figures include the Company's micro fuel cell operations, equity securities of Plug Power, SatCon and Beacon Power, and the results of the Company's equity method of accounting for certain holdings, gains (losses) on the sale of these securities, gains (losses) related to the embedded derivative for the purchase of Plug Power common stock and warrants to purchase SatCon common stock. The results for Plug Power and SatCon were derived from their published unaudited quarterly and audited annual financial statements.

The Company's holdings in SatCon were accounted for on a one-quarter lag (through SatCon's quarter ended June 29, 2002) until accounting for the holding was changed on July 1, 2002 to fair value from the equity method. The sale of SatCon stock was effected as of the date of sale. The accounting for the Company's holdings in Plug Power was changed on December 20, 2002 to fair value from the equity method (See Note 1).

(Dollars in thousands)

<u>Year Ended December 31, 2004</u>	<u>New Energy</u>	<u>Test and Measurement Instrumentation</u>	<u>Other</u>	<u>Reconciling Items</u>	<u>Consolidated Totals</u>
Product revenue	\$ -	\$ 7,530	\$ -	\$ -	\$ 7,530
Funded research and development revenue	1,040	-	-	-	1,040
Research and product development expenses	11,811	1,149	-	-	12,960
Selling, general and administrative expenses	1,395	1,677	3,253	-	6,325
Gain on derivatives	614	-	-	-	614
Segment (loss) profit from continuing operations before income taxes, equity in holdings' losses and minority interests	(8,970)	1,530	(1,681)	-	(9,121)
Segment (loss) profit	(8,970)	1,530	1,883	1,366	(4,191)
Total assets	47,940	2,373	16,517	-	66,830
Securities available for sale	17,678	-	-	-	17,678
Securities available for sale – restricted	16,497	-	-	-	16,497
Derivative liability	1,125	-	-	-	1,125
Capital expenditures	942	64	828	-	1,834
Depreciation and amortization	441	68	402	-	911

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**22. Geographic and Segment Information** (Continued)

(Dollars in thousands)

	<u>New Energy</u>	<u>Test and Measurement Instrumentation</u>	<u>Other</u>	<u>Reconciling Items</u>	<u>Consolidated Totals</u>
<u>Year Ended December 31, 2003</u>					
Product revenue	\$ -	\$ 5,547	\$ -	\$ -	\$ 5,547
Funded research and development revenue	2,311	-	-	-	2,311
Research and product development expenses	7,283	1,065	-	-	8,348
Selling, general and administrative expenses	2,195	1,563	2,079	-	5,837
Impairment losses	(418)	-	-	-	(418)
Segment (loss) profit from continuing operations before income taxes, equity in holdings' losses and minority interests	(309)	354	(1,776)	-	(1,731)
Segment (loss) profit	(309)	354	(1,094)	490	(559)
Total assets	52,875	1,926	11,037	-	65,838
Securities available for sale	44,031	-	-	-	44,031
Capital expenditures	544	43	483	-	1,070
Depreciation and amortization	282	101	216	-	599
<u>Year Ended December 31, 2002</u>					
Product revenue	\$ -	\$ 5,362	\$ -	\$ -	\$ 5,362
Funded research and development revenue	1,573	-	-	-	1,573
Research and product development expenses	5,655	960	-	-	6,615
Selling, general and administrative expenses	1,935	1,741	1,275	-	4,951
Equity in holdings' losses	(13,696)	-	-	5,553	(8,143)
Impairment losses	(5,652)	-	-	-	(5,652)
Segment profit (loss) from continuing operations before income taxes, equity in holdings' losses and minority interests	1,966	110	(1,170)	-	906
Segment (loss) profit	(11,730)	110	4,241	418	(6,961)
Total assets	39,723	2,657	10,004	-	52,384
Securities available for sale	37,332	-	-	-	37,332
Capital expenditures	394	10	123	-	527
Depreciation and amortization	216	142	234	-	592

The following table presents the details of "Other" segment (loss) profit for each of the years ended December 31:

(Dollars in thousands)	<u>2004</u>	<u>2003</u>	<u>2002</u>
Corporate and other (expenses) income:			
Depreciation and amortization	\$ (402)	\$ (216)	\$ (234)
Interest expense	-	(7)	(46)
Interest income	37	105	102
Income tax benefit	3,564	661	5,032
Other expense, net	(1,316)	(1,658)	(992)
Income from discontinued operations	-	21	379
Total (expense) income	<u>\$1,883</u>	<u>\$(1,094)</u>	<u>\$4,241</u>

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**23. Cash Flows - Supplemental Information**

(Dollars in thousands)	Year Ended Dec. 31, <u>2004</u>	Year Ended Dec. 31, <u>2003</u>	Year Ended Dec. 31, <u>2002</u>
<b>Non-Cash Investing and Financing Activities:</b>			
Additional holdings and paid-in-capital resulting from other investors' activity in Plug Power stock	\$ -	\$ -	\$ 717
Additional holdings and paid-in-capital resulting from other investors' activity in SatCon stock	-	-	(150)
Additional paid-in-capital resulting from stock option exercises treated differently for financial reporting and tax purposes	294	223	55
Change in investment and paid-in-capital resulting from other investors' activity in MTI Micro stock	344	881	(28)
Prepaid material in exchange for investment in subsidiary	-	3	(18)
Treasury stock from exchange of securities	-	-	(13,606)
Derivative tax asset	696	-	-
<b>Cash Payments:</b>			
Interest	\$ -	\$ 7	\$ 48
(Tax refunds) taxes paid, net	(143)	25	(112)

**24. Gillette Strategic Alliance and Issuance of Stock by Subsidiary**

On September 19, 2003, MTI Micro entered into a Strategic Alliance Agreement with Gillette whereby MTI Micro, Gillette and Gillette's Duracell business unit will seek to jointly develop and commercialize micro fuel cell products to power low-power, hand-held, mass market, high volume, portable consumer devices. On August 18, 2004, MTI Micro entered into an amendment to the strategic alliance agreement with Gillette. The amendment to the agreement clarified the allocation of deliverables in milestones 3 and 4; added an additional milestone; and changed the due dates for MTI Micro's and Gillette's deliverables. MTI Micro also granted a non-exclusive license to Gillette to any improvements by MTI Micro to IP developed by Gillette.

The agreement provides for a multi-year exclusive relationship for the design, development and commercialization of a low power direct methanol micro fuel cell power system and a compatible fuel refill system. Pursuant to the agreement, MTI Micro will focus on the development of the DMFC and Gillette will focus on the development of the fuel refill. In addition, both MTI Micro and Gillette transferred and licensed from each other certain IP assets, and both have the ability to earn royalties. This exchange has been accounted for as a nonmonetary transaction with no assets and no gains or losses being recorded as a result of the exchange.

Gillette purchased 1,088,278 shares of MTI Micro common stock at a price of \$.92 per share for \$1 million pursuant to an Investment Agreement. In addition to the foregoing referenced \$1 million investment in MTI Micro common stock, Gillette may make additional investments of up to \$4 million subject to agreed milestones. The Company has agreed to invest \$20 million in MTI Micro during the first two years of the agreement if other sources of funding are not available. Immediately prior to the Gillette transaction closing, the Company invested \$11 million (\$7.4 million in cash and \$3.6 million through the conversion of a loan receivable to equity), of its \$20 million commitment in MTI Micro common stock.

**MECHANICAL TECHNOLOGY INCORPORATED AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**24. Gillette Strategic Alliance and Issuance of Stock by Subsidiary** (Continued)

On October 29, 2003, Jeong Kim, a member of the board of directors of MTI Micro, purchased 1,088,278 shares of MTI Micro common stock at a price of \$.92 per share for \$1 million and on April 7, 2004, the Company invested \$15 million into MTI Micro fulfilling its guaranty obligation.

**25. Subsequent Events**

*Litigation*

During January 2005, the Superior Court of California for Orange County approved a settlement of this lawsuit. On March 5, 2005, the Company entered into the settlement agreement. Pursuant to the Settlement, SatCon will pay \$240 thousand and the Company will pay \$35 thousand to the plaintiffs. The settlement released the Company from any future obligation and the settlement of this claim is accounted for in the results of operations for the year ended December 31, 2004 and will be paid in the Company's first quarter 2005.