PLUG POWER INC
Form 10-K
March 16, 2009

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2008

¨ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT**
For the transition period from ______ to ______

Commission file number: 0-27527

Plug Power Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**22-3672377**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Identification Number)**

968 ALBANY SHAKER ROAD, LATHAM, NEW YORK 12110

(Address of Principal Executive Offices, including Zip Code)

(518) 782-7700

(Registrant s telephone number, including area code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common stock, par value $.01 per share	The NASDAQ Global Market

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

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

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Sections 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 x No ¨

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

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

Large accelerated filer ¨ Accelerated filer x Non-accelerated filer ¨ Smaller reporting company ¨

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

The aggregate market value of the voting and non-voting common equity of the registrant held by non-affiliates of the registrant on June 30, 2008 was $77.8 million.

As of March 6, 2009, 128,093,232 shares of the registrant s common stock were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement relating to the registrant s 2009 Annual Meeting of stockholders are incorporated by reference into Part III of this report to the extent described therein.

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PART I

Forward-Looking Statements

The following discussion should be read in conjunction with our accompanying Consolidated Financial Statements and Notes thereto included within this Annual Report on Form 10-K. In addition to historical information, this Annual Report on Form 10-K and the following discussion contain statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. These forward-looking statements contain projections of our future results of operations or of our financial position or state other forward-looking information. In some cases you can identify these statements by forward-looking words such as anticipate, believe, could, estimate, expect, intend, may, should, will and would or similar words. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Investors are cautioned not to rely on forward-looking statements because they involve risks and uncertainties, and actual results may differ materially from those discussed as a result of various factors, including, but not limited to: the risk that our restructurings result in greater restructuring charges or less cost savings than anticipated; the risk that unit orders will not ship, be installed and/or convert to revenue, in whole or in part; our ability to develop commercially viable energy products; the cost and timing of developing our energy products; market acceptance of our energy products; our ability to manufacture energy products on a large-scale commercial basis; competitive factors, such as price competition and competition from other traditional and alternative energy companies; the cost and availability of components and parts for our energy products; the cost and availability of fuel and fueling infrastructures for Plug Power's energy products; the ability to raise and provide the necessary capital to develop, manufacture and market our energy products; our ability to establish relationships with third parties with respect to product development, manufacturing, distribution and servicing and the supply of key product components; our ability to protect our intellectual property; our ability to lower the cost of our energy products and demonstrate their reliability; the cost of complying with current and future governmental regulations; fluctuations in the trading price and volume of our common stock; and other risks and uncertainties discussed under Item IA Risk Factors. Readers should not place undue reliance on our forward-looking statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. Except as may be required by applicable law, we do not undertake or intend to update any forward-looking statements after the date of this Annual Report on Form 10-K.

Item 1. Business

Company Background

Plug Power Inc., or the Company, is a development stage enterprise involved in the design, development and manufacture of fuel cell systems for industrial-motive (forklift or material handling) markets and stationary power markets worldwide. We are a development stage enterprise because substantially all of our resources and efforts are aimed at the discovery of new knowledge that could lead to significant improvement in fuel cell reliability and durability, and the establishment, expansion and stability of markets for our products. We continue to experience significant net outflows of cash from operations and devote significant efforts towards financial planning in order to forecast future cash spending and the ability to continue product development, manufacturing and sales activities. Fuel cell technology within our targeted markets material handling, remote prime power, residential combined heat and power and wireless and wireline telecommunications - is still early in the technology adoption life cycle.

We are focused on proton exchange membrane, or PEM, fuel cell and fuel processing technologies and fuel cell/battery hybrid technologies, from which multiple products are available. A fuel cell is an electrochemical device that combines hydrogen and oxygen to produce electricity and heat without combustion. Hydrogen is derived from hydrocarbon fuels such as natural gas, propane, methanol, ethanol, gasoline or biofuels. Hydrogen can also be obtained from the electrolysis of water. Hydrogen can be purchased directly from industrial gas providers or can be produced on-site at consumer locations.

We sell our products worldwide through a product sales force. We sell to business, industrial and government customers.

We were organized in the State of Delaware on June 27, 1997 and became listed on the NASDAQ exchange on October 29, 1999. We were originally a joint venture between Edison Development Corporation and Mechanical Technology Incorporated. In 2007 we merged with and acquired all the assets, liabilities and equity of Cellex Power Products, Inc. (Cellex) and General Hydrogen Corporation (General Hydrogen).

Unless the context indicates otherwise, the terms Company, Plug Power, we, our or us as used herein refers to P
Power Inc. (the registrant) and its subsidiaries.

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Business Strategy

We are committed to developing effective, economical and reliable fuel cell products and services for businesses, government agencies and, ultimately, commercial consumers. Building on our substantial fuel cell application and product integration experience, we are initially focused on building strong relationships with customers who value increased reliability, productivity, energy security and a sustainable future.

Our business strategy leverages our unique fuel cell application and integration knowledge to identify early adopter markets for which we can design and develop innovative systems and customer solutions that provide superior value, ease-of-use, and environmental design.

We continue to survey the market and evaluate our best opportunities to drive market adoption and a path to profitability for Plug Power. Currently, our primary focus and resource commitment is on our GenDrive™ solution for the material handling (forklift) market.

We believe continued investment in research and development is critical to the development and enhancement of innovative products, technologies and services. In addition to evolving our direct hydrogen fueled systems, we continue to capitalize on our investment in power electronics, controls, software and reforming technology.

Our strategy also includes expanding our sales network to effectively reach more of our targeted customers and provide them with high-quality products, service and post-sales support experience.

We are striving to meet longer-term objectives of delivering economic, social, and environmental benefits in terms of reliable, clean, cost-effective fuel cell solutions and, ultimately, sustainability.

Business Organization

We manage our business as a single development stage enterprise, emphasizing shared learning across end-user applications and common supplier/vendor relationships.

Products

We continue to develop a range of fuel cell products and services including hydrogen fuel cell low-temperature Proton Exchange Membrane (PEM) systems for motive, continuous and backup power and a high-temperature fuel cell system for residential and light commercial co-generation.

Our primary product lines that we sell and continue development work on are discussed below:

GenDrive™ Hydrogen fueled PEM fuel cell system to provide power to industrial vehicles. We are focusing our primary efforts on material handling (forklift) and automated guided vehicles (AGV) at multi-shift high volume manufacturing and high throughput distribution sites where we believe our products and services provide a unique combination of productivity, flexibility and environmental benefits. In 2008, we continue to expand our sales and demonstrations to commercial and governmental customers including Wal-Mart, Bridgestone Firestone, Nestle, Central Grocers and Sysco Foods. We expect continued sales momentum in 2009 with our key target customers.

GenSys® Natural gas or liquid petroleum gas (LPG) fueled continuous power system. We continue to develop a low-temperature (70ºC) PEM fuel cell system that supports remote prime power applications, specifically for the telecommunications sector, where grid power is unreliable or non-existent. We successfully completed field trials for a low-temperature GenSys product at a Tata Teleservices Ltd. cell tower site in remote India.

In connection with the development of our GenSys platform, we are developing a high-temperature (180ºC) polybenzimidazole (PBI) combined heat and power fuel cell system for light commercial and residential applications producing high quality heat and supplemental electricity. We will partner with the U.S. Department of Energy and National Grid to conduct the first field trial of the high-temperature GenSys product in 2009. Learning from the field trial will help determine system refinements for incorporation into the next-generation system design.

Additionally in 2008, we provided manufacturing and sales support to our GenCore® product Hydrogen fueled PEM fuel cell system to provide back-up power to businesses and government in critical infrastructure. We continue to work with certain established customers on future initiatives related to this product.

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Also, we developed technology in support of the automotive fuel cell market under a series of agreements with Honda R&D Co Ltd. of Japan (Honda), a subsidiary of Honda Motor Co., Ltd. Under these agreements we have developed and tested, on a joint and exclusive basis, four phases of prototype fuel cell systems that provide electricity and heat to a home, while also providing hydrogen fuel for a fuel cell vehicle. Since 2003 we have successfully demonstrated four successive prototype generations of this system at Honda R&D Americas facility in Torrance, California and at Plug Power s facility in Latham, NY. In 2009 we will continue to provide service for the current model of the Home Energy Station located at Honda s Torrance, California facility.

Product Support & Services

To promote fuel cell adoption and maintain post-sale customer satisfaction, we offer a range of service and support options for customers of all our product offerings. These options include installation, commissioning, fueling and assistance that is built into software, printed and electronic product manuals, online support, as well as on-site technical support.

GenDrive product support and services may also include training and working directly with lift truck dealer networks with established service personnel. These personnel will assist with the commissioning and installation of GenDrive units and in some cases will be used to carry out regularly scheduled preventative maintenance.

Markets/Geography

Our commercial sales for GenDrive power units are in the material handling market segments which consist of large fleet, multi-shift operations in high volume manufacturing and high throughput distribution. In 2008, 100% of our installations were in North America.

We received 358 orders for our GenDrive product during the year ending December 31, 2008. Backlog on December 31, 2008 was 341 units representing approximately $6.4 million which includes approximately $1.1 million related to 45 GenDrive units that were previously funded under various government projects.

GenDrive	**2008**	**2007**
Shipments	132	47
Cancellations	4	-
Orders	358	94
Backlog	341	119

Commercial sales of GenCore stationary back-up power systems primarily support the telecommunications industry. We received 109 orders during the year ending December 31, 2008. Backlog on December 31, 2008 was 140 units representing approximately $1.8 million.

GenCore	**2008**	**2007**
Shipments	146	180
Cancellations	7	313
Orders	109	106
Backlog	140	184

We satisfied our orders for our GenSys product during the year ending December 31, 2008. During the year we received 5 orders for the product. There was no backlog on December 31, 2008.

We have accepted orders that require certain conditions or contingencies to be satisfied prior to shipment, some of which are outside of our control. Historically, shipments made against these orders can occur between thirty (30) days and twenty-four (24) months from the date of acceptance of the order.

Final assembly of products that we sell is performed primarily at our manufacturing facility in Latham, New York. Currently, the supply and manufacture of several critical components used in our products are performed by sole-sourced third-party vendors in the U.S. and Canada.

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Distribution, Marketing and Strategic Relationships

We have developed an extended enterprise by forming strategic relationships with well-established companies in key areas including distribution, service, marketing, supply, technology development and product development. We sell our products through our direct sales force, original equipment manufacturers (OEMs) and their dealer networks. Our customers have no special right of return, price protection allowances or other sales incentives. We offer a discount from our manufacturers suggested retail price to resellers to allow for the mark-up of the reseller.

Competition

We are confronted by aggressive competition in all areas of our business. The markets we address for motive and stationary power are characterized by the presence of well-established commodity battery and combustion generator products in addition to several competing fuel cell companies.

Over the past several years, price competition in these markets has been particularly intense.

The principal competitive factors in the markets in which we operate include price, product features, relative price/performance, product quality and reliability, design innovation, marketing and distribution capability, service and support, and corporate reputation.

In the material handling power market, we believe our GenDrive systems have an advantage over lead acid batteries for customers who run high throughput, multi shift operations by offering increased productivity with lower operational costs. However, we expect competition in this space to intensify as competitors attempt to imitate our approach with their own offerings. Some of these current and potential competitors have substantial resources and may be able to provide such products and services at little or no profit or even at a loss to compete with our offerings.

Intellectual Property

We believe that neither we nor our competitors can achieve a significant proprietary position on the basic technologies currently used in PEM fuel cell systems. However, we believe the design and integration of our system and system components, as well as some of the low-cost manufacturing processes that we have developed, is intellectual property that can be protected.

During 2008 we increased our technology portfolio by adding 7 new U.S. patents. At December 31, 2008 we have a total of 148 U.S. patents and 7 foreign patents, and we currently have over 110 patents pending worldwide. Our patent portfolio decreased in 2008 as we began to focus our intellectual property protection on our current product offerings. Additionally, there are 29 pending patent applications filed on behalf of Honda relating to development work on the Home Energy Station (HES) to which we have certain rights. The technology portfolio covers among other things: fuel cell components that reduce manufacturing part count; fuel cell system designs that lend themselves to mass manufacturing; improvements to fuel cell system efficiency, reliability and system life; and control strategies, such as added safety protections and operation under extreme conditions. In general, our employees are party to agreements providing that all inventions (whether patented or not) made or conceived while an employee of Plug Power, which are related to or result from work or research that Plug Power performs, will remain the sole and exclusive property of Plug Power.

Government Regulation

We do not believe that we will be subject to existing federal and state regulatory commissions governing traditional electric utilities and other regulated entities. Our products and their installations are, however, subject to oversight and regulation at the state and local level in accordance with state and local statutes and ordinances relating to, among others, building codes, fire codes, public safety, electrical and gas pipeline connections and hydrogen siting. The level of regulation may depend, in part, upon where a system is located. For example, the 2008 National Electrical Code, or NEC, is a model code written by the National Fire Protection Association, or (NFPA) that governs the electrical wiring of most homes, businesses and other buildings. The NEC has been adopted by local jurisdictions throughout the United States and is enforced by local officials, such as building and electrical inspectors. Article 692 of the NEC governs the installation of fuel cell systems. Accordingly, all of our stationary products installed in a jurisdiction that has adopted the NEC are installed in accordance with Article 692.

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In addition, product safety standards have been established by the American National Standards Institute (ANSI) covering the overall fuel cell system. Our GenCore product has been certified by independent third-parties to be in compliance with such standards, and an assessment of our GenDrive product will begin in 2009. Other than these requirements, at this time we do not know what additional requirements, if any, each jurisdiction will impose on our products or their installation. We also do not know the extent to which any new regulations may impact our ability to distribute, install and service our products. As we continue distributing our systems to our target markets, the federal, state or local government entities or competitors may seek to impose regulations.

Raw Materials

Although most components essential to our business are generally available from multiple sources, we currently obtain certain key components including, but not limited to, fuel cell stack materials and energy storage devices, from single or limited sources. In 2008, Plug Power signed a supply agreement with Ballard Power Systems through December 31, 2010. Under this agreement, Ballard will remain the exclusive supplier of fuel cell stacks for Plug Power s GenDrive product line.

We believe there are several component suppliers and manufacturing vendors whose loss to the Company could have a material adverse effect upon our business and financial condition. At this time, such vendors include, but are not limited to, Ballard Power Systems, BASF Fuel Cells, 3M Co. and Dana Corporation. We attempt to mitigate these potential risks by working closely with these and other key suppliers on product introduction plans, strategic inventories, coordinated product introductions and internal and external manufacturing schedules and levels.

Research and Development

Because the fuel cell industry is characterized by its early state of adoption, our ability to compete successfully is heavily dependent upon our ability to ensure a continual and timely flow of competitive products, services, and technologies to the marketplace. We continue to develop new products and technologies and to enhance existing products in the areas of cost, size, weight, and in supporting service solutions in order to drive commercialization. We may expand the range of our product offerings and intellectual property through licensing and/or acquisition of third-party business and technology. Our research and development expense totaled $35.0 million, $39.2 million and $41.6 million in 2008, 2007 and 2006, respectively. We also had cost of research and development contract revenue of $21.5 million, $19.0 million and $7.6 million in 2008, 2007 and 2006, respectively. These expenses represent the cost of research and development programs that are partially funded under cost reimbursement research and development arrangements with third parties.

Employees

As of December 31, 2008, we had a total staff of 208 employees. Plug Power adopted restructuring plans in 2008 intended to focus the Company on revenue growth, improve organizational efficiency and position the Company for long-term profitability. Details of the Company s restructuring plans are available in previously filed Form 8-K reports dated June 10, 2008 and December 18, 2008 as filed on June 16, 2008 and December 22, 2008, respectively.

Available information

We maintain a website with an internet address of www.plugpower.com. The information contained on our website is not included as a part of, or incorporated by reference into, this Annual Report on Form 10-K. Other than an investor s own internet access charges, we make available free of charge, through our website, our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to these reports, as soon as reasonably practicable after we have electronically filed such material with, or furnished such material to, the Securities and Exchange Commission.

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Item 1A. Risk Factors

The following factors should be considered carefully in addition to the other information in this Form 10-K. Except as mentioned under Quantitative and Qualitative Disclosure About Market Risk and except for the historical information contained herein, the discussion contained in this Form 10-K contains forward-looking statements, within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, that involve risks and uncertainties. Our actual results could differ materially from those discussed in this Form 10-K. Important factors that could cause or contribute to such differences include those discussed below, as well as those discussed elsewhere herein.

Delays in our product development could have a material impact on the commercialization of our products.

If we experience delays in meeting our development goals, our products exhibit technical defects, or if we are unable to meet cost or performance goals, including power output, useful life and reliability, the commercialization of our products will be delayed. In this event, potential purchasers of our products may choose alternative technologies and any delays could allow potential competitors to gain market advantages. We cannot assure you that we will successfully meet our commercialization schedule in the future.

We may never complete the research and development of certain commercially viable energy and material handling products.

We are a development stage company. Other than our GenCore and certain products within our GenDrive product family, which we believe to be commercially viable at this time, we do not know when or whether we will successfully complete research and development of other commercially viable energy and material handling products. If we are unable to develop additional commercially viable energy and material handling products, we will not be able to generate sufficient revenue to become profitable. The commercialization of our products depends on our ability to reduce the costs of our components and subsystems, and we cannot assure you that we will be able to sufficiently reduce these costs. In addition, the commercialization of our products requires achievement and verification of their overall reliability, efficiency and safety targets, and we cannot assure you that we will be able to develop, acquire or license the technology necessary to achieve these targets. Although we continue to increase the number of units sold in our GenCore and GenDrive products, we must complete additional research and development to fill out the product portfolio and deliver enhanced functionality and reliability before we will be able to manufacture commercially viable products in commercial quantities. In addition, while we are conducting tests to predict the overall life of our products, we may not have run our products over their projected useful life prior to large-scale commercialization. As a result, we cannot be sure that our products will last as long as predicted, resulting in possible warranty claims and commercial failures.

We have incurred losses and anticipate continued losses for at least the next several years.

As of December 31, 2008 we had an accumulated deficit of $639.7 million. We have not achieved profitability in any quarter since our formation and expect to continue to incur net losses until we can produce sufficient revenue to cover our costs, which is not expected to occur for at least the next several years. We anticipate that we will continue to incur losses until we can produce and sell our products on a large-scale and cost-effective basis. However, we cannot predict when we will operate profitably, if ever. Even if we do achieve profitability, we may be unable to sustain or increase our profitability in the future.

We are still a development stage company.

We were formed in June 1997 to further the research and development of stationary fuel cell systems. While we delivered our initial product in the third quarter of 2001, our initial GenCore product in the fourth quarter of 2003 and our GenDrive product in the third quarter of 2007, we do not expect to be profitable for at least the next several years. Before investing in our common stock, you should consider the challenges, expenses and difficulties that we will face as a development stage company seeking to develop and manufacture new products.

Our financial results could be negatively impacted by impairments of goodwill or other intangible assets required by SFAS 142 and the application of future accounting policies or interpretations of existing accounting policies.

In accordance with Statement of Financial Accounting Standards No. 142, Goodwill and Other Intangible Assets referred to as SFAS 142, we perform an annual assessment on goodwill and other intangible assets for impairment and also an assessment if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below it s carrying amount. A downward revision in the fair value of one of our acquired businesses could result in impairments of goodwill under SFAS 142 and non-cash charges. Any charge resulting from the application of SFAS 142 could have a significant negative effect on our reported net loss. For example, in the fourth quarter of 2009, we recorded a non-cash impairment charge of $45.8 million relating to goodwill which resulted in an increase in our net loss for the quarter of $45.8 million. In addition, our financial results could be negatively impacted by the application of existing and future accounting policies or interpretations of existing accounting policies, any continuing impact of SFAS 142 or any negative impact relating to the application of Statement of Financial Accounting Standards No. 144, Accounting for the Improvement and Disposal of Long-Lived Assets.

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A viable market for our products may never develop or may take longer to develop than we anticipate.

Our energy and material handling products represent emerging markets, and we do not know the extent to which our targeted customers will want to purchase them and whether end-users will want to use them. 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 products and may be unable to achieve profitability. The development of a viable market for our products may be impacted by many factors which are out of our control, including:

- the cost competitiveness of our products;
- the future costs of natural gas, propane, hydrogen and other fuels expected to be used by our products;
- consumer reluctance to try a new product;
- consumer perceptions of our products safety;
- regulatory requirements;
- barriers to entry created by existing energy providers; and
- the emergence of newer, more competitive technologies and products.

We have no experience manufacturing our products on a large-scale commercial basis and may be unable to do so.

To date, we have focused primarily on research, development and low volume manufacturing and have no experience manufacturing our products on a large-scale commercial basis. In 2000, we completed construction of our 50,000 square foot manufacturing facility and have continued to develop our manufacturing capabilities and processes. We do not know whether or when we will be able to develop efficient, low-cost manufacturing capabilities and processes that will enable us to manufacture our products in commercial quantities while meeting the quality, price, engineering, design, and production standards required to successfully market our products. Our failure to develop such manufacturing processes and capabilities could have a material adverse effect on our business, financial condition and results of operations. Even if we are successful in developing our manufacturing capabilities and processes, we do not know whether we will do so in time to meet our product commercialization schedule or to satisfy the requirements of our distributors or customers.

We have not developed and produced the products that we have agreed to sell to some of our customers.

We have not developed or produced certain products that are required by some of our sales and customer agreements. There can be no assurance that we will complete development of products meeting specifications required by our sales and customer agreements and deliver them on schedule. Pursuant to certain agreements, the customers have the right to provide notice to us if, in their good faith judgment, we have materially deviated from the agreement. Should a customer provide such notice, and we cannot mutually agree to a modification to the agreement, then the customer may have the right to terminate the agreement.

Our orders may not ship or convert to revenue, in whole or in part.

We have accepted orders from certain customers which include firm orders, stocking orders and orders that require certain conditions or contingencies to be satisfied prior to shipment, some of which are outside of our control. Historically, shipments made against these orders have occurred between thirty (30) days and twenty- four (24) months from the date of acceptance of the order. Orders received during the year ended December 31, 2008 totaled 472 units. Backlog on December 31, 2008 was 481 units. Of the unit orders in backlog on December 31, 2008, orders for 141 units were older than 12 months. The time periods from receipt of an order to shipment date and installation vary widely and are determined by a number of factors, including the terms of the customer contract and the customer s deployment plan. Due to certain redesign elements to be satisfied prior to shipment of units under certain of our agreements, some of which are outside of the Company s control, some or all of our orders may not ship or convert to revenue.

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We may be unable to establish relationships, or we may lose existing relationships, with third parties for certain aspects of product development, manufacturing, distribution and servicing and the supply of key components for our products.

We will need to enter into additional strategic relationships in order to complete our current product development and commercialization plans. We will also require partners to assist in the sale, servicing and supply of components for our anticipated products, which are in development. If we are unable to identify or enter into satisfactory agreements with potential partners, including those relating to the distribution, service and support of our anticipated products, we may not be able to complete our product development and commercialization plans on schedule or at all. We may also need to scale back these plans in the absence of needed partners, which would adversely affect our future prospects for development and commercialization of future products. In addition, any arrangement with a strategic partner may require us to issue a significant amount of equity securities to the partner, provide the partner with representation on our board of directors and/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 stockholders. While we have entered into relationships with suppliers of some key components for our products, we do not know when or whether we will secure supply relationships for all required components and subsystems for our products, or whether such relationships will be on terms that will allow us to achieve our objectives. Our business, prospects, results of operations and financial condition could be harmed if we fail to secure relationships with entities which can develop or supply the required components for our products and provide the required distribution and servicing support. Additionally, the agreements governing our current relationships allow for termination by our partners under certain circumstances, some of which are beyond our control. If any of our current strategic partners were to terminate any of its agreements with us, there could be a material adverse impact on the development and commercialization of our products and the operation of our business, financial condition, results of operations and prospects.

We rely on our partners to develop and provide components for our products.

A supplier s failure to develop and supply components in a timely manner or at all, 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, could harm our ability to manufacture our products. 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.

We face intense competition and may be unable to compete successfully.

The markets for energy products are intensely competitive. There are a number of companies located in the United States, Canada and abroad that are developing PEM and other fuel cell technologies and energy products that compete with our products. Some of our competitors in the fuel cell sector are much larger than we are and may have the manufacturing, marketing and sales capabilities to complete research, development and commercialization of commercially viable fuel cell products more quickly and effectively than we can.

In addition, there are many companies engaged in all areas of traditional and alternative energy generation in the United States, Canada and abroad, including, among others, major electric, oil, chemical, natural gas, battery, generator and specialized electronics firms, as well as universities, research institutions and foreign government-sponsored companies. These firms are engaged in forms of power generation such as solar and wind power, reciprocating engines and micro turbines, advanced battery technologies, as well as traditional grid-supplied electric power. Many of these entities have substantially greater financial, research and development, manufacturing and marketing resources than we do.

We must lower the cost of our products and demonstrate their reliability.

The initial capital cost of our fuel cell systems is currently significantly more than many established competing technologies. If we are unable to develop products that are competitive with competing technologies in terms of price, reliability and longevity, consumers will be unlikely to buy our products. The price of our products depends largely on material and manufacturing costs. We cannot guarantee that we will be able to lower these costs to the level where we will be able to produce a competitive product or that any product produced using lower cost materials and manufacturing processes will not suffer from a reduction in performance, reliability and longevity.

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Failure of our field tests could negatively impact demand for our products.

We are currently field-testing a number of our products, and we plan to conduct additional field tests in the future. We may encounter problems and delays during these field tests for a number of reasons, including the failure of our technology or the technology of third parties, as well as our failure to maintain and service our products properly. Many of these potential problems and delays are beyond our control. Any problem or perceived problem with our field tests could materially harm our reputation and impair market acceptance of, and demand for, our products.

Further regulatory changes and electric utility industry restructuring may affect demand for our products.

The market for electric power generation products is heavily influenced by federal and state governmental regulations and policies concerning the electric utility and telecommunications industries. A change in the current regulatory policies could deter further investment in the research and development of alternative energy sources, including fuel cells, and could result in a significant reduction in the demand for our products. We cannot predict how deregulation or restructuring of the industry will affect the market for our products.

Our business may become subject to future government regulation, which may impact our ability to market our products.

Our products will be subject to federal, local, and non-U.S. laws and regulations, including, for example, state and local ordinances relating to building codes, public safety, electrical and gas pipeline connections, hydrogen transportation and siting and related matters. Further, as products are introduced into the market commercially, governments may impose new regulations. We do not know the extent to which any such regulations may impact our ability to distribute, install and service our products. Any regulation of our products, whether at the federal, state, local or foreign level, including any regulations relating to installation and servicing of our products, may increase our costs and the price of our products.

Utility companies could place barriers on our entry into the marketplace where customers depend on traditional grid supplied energy.

Utility companies often charge fees to industrial companies for disconnecting from the grid, for using less electricity or for having the capacity to use power from the grid for back-up purposes and may charge similar fees to residential customers in the future. The imposition of such fees could increase the cost to grid-connected customers of using our products and could make our products less desirable, thereby harming our revenue and profitability.

Alternatives to our technology or improvements to traditional energy technologies could make our products less attractive or render them obsolete.

Our products are among a number of alternative energy products being developed. A significant amount of public and private funding is currently directed toward development of micro turbines, solar power, wind power, advanced batteries and generator sets, fast charged technologies and other types of fuel cell technologies. Improvements are also being made to the existing electric transmission system and battery based systems. Technological advances in alternative energy products, improvements in the electric power grid, battery systems or other fuel cell technologies may make our products less attractive or render them obsolete.

The hydrocarbon fuels and other raw materials on which our products rely may not be readily available or available on a cost-effective basis.

Our products depend largely on the availability of natural gas, liquid propane and hydrogen gas. If these fuels are not readily available, or if their prices are such that energy produced by our products costs more than energy provided by other sources, our products could be less attractive to potential users.

In addition, platinum is a key material in our PEM fuel cells. Platinum is a scarce natural resource and we are dependent upon a sufficient supply of this commodity. Any shortages could adversely affect our ability to produce commercially viable fuel cell systems and significantly raise our cost of producing our fuel cell systems.

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Our products use flammable fuels that are inherently dangerous substances.

Our fuel cell systems use natural gas, liquid propane and hydrogen gas in catalytic reactions, which produce less heat than a typical gas furnace. While our products do not use this fuel in a combustion process, natural gas, liquid propane and hydrogen gas are flammable fuels that could leak in a home or office and combust if ignited by another source. Further, while we are not aware of any accidents involving our products, any such accidents involving our products or other products using similar flammable fuels could materially suppress demand for, or heighten regulatory scrutiny of, our products.

Product liability or defects could negatively impact our results of operations.

Any liability for damages resulting from malfunctions or design defects could be substantial and could materially adversely affect our business, financial condition, results of operations and prospects. In addition, a well-publicized actual or perceived problem could adversely affect the market s perception of our products resulting in a decline in demand for our products and could divert the attention of our management, which may materially and adversely affect our business, financial condition, results of operations and prospects.

Future acquisitions may be difficult to integrate, add additional burden to our management and reduce the percentage ownership of our stockholders.

As part of our business strategy we may engage in acquisitions that we believe will provide us with complementary technologies, products, channels, revenue streams, expertise and/or other valuable assets. However, we may not be able to identify suitable acquisition candidates. If we do identify suitable candidates, we may not be able to acquire them on commercially acceptable terms or at all. If we acquire another company, we may not be able to successfully integrate the acquired business into our existing business in a timely and non-disruptive manner. We may have to devote a significant amount of time and management and financial resources to do so. Even with this investment of management and financial resources, an acquisition may not produce the desired revenues, earnings or business synergies. In addition, an acquisition involving our stock may reduce the percentage ownership of our then current stockholders. If we fail to integrate the acquired business effectively or if key employees of that business leave, the anticipated benefits of the acquisition would be jeopardized. The time, capital, management and other resources spent on an acquisition that fails to meet our expectations could cause our business and financial condition to be materially and adversely affected. In addition, from an accounting perspective, acquisitions can lead to non-recurring charges and amortization or impairment of significant amounts of intangible assets that could adversely affect our results of operations.

We may not be able to protect important intellectual property and we could incur substantial costs defending against claims that our products infringe on the proprietary rights of others.

PEM fuel cell technology was first developed in the 1950s, and fuel processing technology has been practiced on a large scale in the petrochemical industry for decades. Accordingly, we do not believe that we can establish a significant proprietary position in the fundamental component technologies in these areas. However, our ability to compete effectively will depend, in part, on our ability to protect our proprietary system-level technologies, systems designs and manufacturing processes. We rely on patents, trademarks, and other policies and procedures related to confidentiality to protect our intellectual property. However, some of our intellectual property is not covered by any patent or patent application. Moreover, we do not know whether any of our pending patent applications will issue or, in the case of patents issued or to be issued, that the claims allowed are or will be sufficiently broad to protect our technology or processes. Even if all of our patent applications are issued and are sufficiently broad, our patents may be challenged or invalidated. We could incur substantial costs in prosecuting or defending patent infringement suits or otherwise protecting our intellectual property rights. While we have attempted to safeguard and maintain our proprietary rights, we do not know whether we have been or will be completely successful in doing so. Moreover, patent applications filed in foreign countries may be subject to laws, rules and procedures that are substantially different from those of the United States, and any resulting foreign patents may be difficult and expensive to enforce. In addition, we do not know whether the U.S. Patent & Trademark Office will grant federal registrations based on our pending trademark applications. Even if federal registrations are granted to us, our trademark rights may be challenged. It is also possible that our competitors or others will adopt trademarks similar to ours, thus impeding our ability to build brand identity and possibly leading to customer confusion. We could incur substantial costs in prosecuting or defending trademark infringement suits.

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Further, our competitors may independently develop or patent technologies or processes that are substantially equivalent or superior to ours. If we are found to be infringing third party patents, we could be required to pay substantial royalties and/or damages, and we do not know whether we will be able to obtain licenses to use such patents on acceptable terms, if at all. Failure to obtain needed licenses could delay or prevent the development, manufacture or sale of our products, and could necessitate the expenditure of significant resources to develop or acquire non-infringing intellectual property.

Asserting, defending and maintaining our intellectual property rights could be difficult and costly and failure to do so may diminish our ability to compete effectively and may harm our operating results. We may need to pursue lawsuits or legal action in the future to enforce our intellectual property rights, to protect our trade secrets and domain names, and to determine the validity and scope of the proprietary rights of others. If third parties prepare and file applications for trademarks used or registered by us, we may oppose those applications and be required to participate in proceedings to determine the priority of rights to the trademark. Similarly, competitors may have filed applications for patents, may have received patents and may obtain additional patents and proprietary rights relating to products or technology that block or compete with ours. We may have to participate in interference proceedings to determine the priority of invention and the right to a patent for the technology. Litigation and interference proceedings, even if they are successful, are expensive to pursue and time consuming, and we could use a substantial amount of our financial resources in either case.

We rely, in part, on contractual provisions to protect our trade secrets and proprietary knowledge.

Confidentiality agreements to which we are party may be breached, and we may not have adequate remedies for any breach. Our trade secrets may also be known without breach of such agreements or may be independently developed by competitors. Our inability to maintain the proprietary nature of our technology and processes could allow our competitors to limit or eliminate any competitive advantages we may have.

We may have difficulty managing change in our operations.

We continue to undergo rapid change in the scope and breadth of our operations as we advance the development and commercialization of our 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, 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.

We face risks associated with our plans to market, distribute and service our products internationally.

We intend to market, distribute and service our products internationally. We have limited experience developing and manufacturing our products to comply with the commercial and legal requirements of international markets. Our success in international markets will depend, in part, on our ability and that of our partners to secure relationships with foreign sub-distributors, and our ability to manufacture products that meet foreign regulatory and commercial requirements. Additionally, our planned international operations are subject to other inherent risks, including potential difficulties in enforcing contractual obligations and intellectual property rights in foreign countries and fluctuations in currency exchange rates. Also, to the extent our operations and assets are located in foreign countries, they are potentially subject to nationalization actions over which we will have no control.

Our international sales and operations may be adversely affected by changes in local government laws, regulations and policies.

Our international sales and operations are subject to risks associated with changes in local government laws, regulations and policies, including those related to tariffs and trade barriers, investments, taxation, exchange controls, employment regulations, and repatriation of earnings. Our international sales and operations are also sensitive to changes in foreign national priorities, including government budgets, as well as to political and economic instability. International transactions may involve increased financial and legal risks due to differing legal systems and customs in foreign countries. For example, as a condition of sale or to the awarding of a contract, some international customers require us to agree to offset arrangements, which may include in-country purchases, manufacturing and financial support arrangements. The contract may provide for penalties in the event we fail to perform in accordance with the offset requirements. In addition, as part of our globalization strategy, we have invested in certain countries which may carry high levels of currency, political and economic risk. While these factors or the impact of these factors are difficult to predict, any one or more of them could adversely affect our business, financial condition or operating results.

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Our government contracts could restrict our ability to effectively commercialize our technology.

Some of our technology has been developed under government funding by the United States and Canada, and by other countries. The United States and Canadian governments have a non-exclusive, royalty-free, irrevocable world-wide license to practice or have practiced any of our technology developed under contracts funded by the respective government. In some cases, government agencies in the United States or Canada can require us to obtain or produce components for our systems from sources located in the United States or Canada, respectively, rather than foreign countries. Our contracts with government agencies are also subject to the risk of termination at the convenience of the contracting agency, potential disclosure of our confidential information to third parties and the exercise of march-in rights by the government. March-in rights refer to the right of the United States or Canadian governments or government agency to license to others any technology developed under contracts funded by the government if the contractor fails to continue to develop the technology. The implementation of restrictions on our sourcing of components or the exercise of march-in rights could harm our business, prospects, results of operations and financial condition. In addition, under the Freedom of Information Act, any documents that we have submitted to the government or to a contractor under a government funding arrangement are subject to public disclosure that could compromise our intellectual property rights unless such documents are exempted as trade secrets or as confidential information and treated accordingly by such government agencies.

Our future plans could be harmed if we are unable to attract or retain key personnel.

We have attracted a highly skilled management team and specialized workforce, including scientists, engineers, researchers, manufacturing, marketing and sales professionals. Our future success will depend, in part, on our ability to attract and retain qualified management and technical personnel. We do not know whether we will be successful in hiring or retaining qualified personnel. Our inability to hire qualified personnel on a timely basis, or the departure of key employees, could materially and adversely affect our development and commercialization plans and, therefore, our business, prospects, results of operations and financial condition.

OJSC (Third Generation Company of the Wholesale Electricity Market)(OGK-3) has substantial control over us and could limit your ability to influence the outcome of key transactions, including a change of control.

OGK-3 and its affiliates own approximately 35% of the outstanding shares of our common stock. As a result, these stockholders can significantly influence or control certain matters requiring approval by our stockholders, including the approval of mergers or other extraordinary transactions. The interests of these stockholders may differ from yours and these stockholders may vote in a way with which you disagree and which may be adverse to your interests. This concentration of ownership may have the effect of delaying, preventing or deterring a change of control of our Company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our Company and might ultimately affect the market price of our common stock.

If a substantial number of shares of the Company s common stock become available for sale and are sold in a short period of time, the market price of our common stock could decline.

OGK-3 holds 44,626,939 shares of common stock, which represent in aggregate approximately 35% of the Company s outstanding common stock. If OGK-3 or its affiliates sell substantial amounts of our common stock in the public market, the market price of our common stock could decrease significantly. The perception in the public market that OGK-3 might sell shares of common stock could also depress the trading price of our common stock. A decline in the price of shares of our common stock might impede our ability to raise capital through the issuance of additional shares of our common stock or other equity securities.

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Provisions in our charter documents and Delaware law may prevent or delay an acquisition of us, which could decrease the value of our common stock.

Our certificate of incorporation, bylaws and Delaware law contain provisions that could make it harder for a third party to acquire us without the consent of our board of directors. These provisions include those that:

- authorize the issuance of up to 5,000,000 shares of preferred stock in one or more series without a stockholder vote;
- limit stockholders ability to call special meetings;
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings; and
- provide for staggered terms for our directors.

In addition, in certain circumstances, Delaware law also imposes restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock.

Our stock price has been and could remain volatile.

The market price of our common stock has historically experienced and may continue to experience significant volatility. In 2008 the market price of our common stock fluctuated from a high of $4.17 per share in the first quarter of 2008 to a low of $0.69 per share in the fourth quarter of 2008. Our progress in developing and commercializing our products, our quarterly operating results, announcements of new products by us or our competitors, our perceived prospects, changes in securities analysts recommendations or earnings estimates, changes in general conditions in the economy or the financial markets, adverse events related to our strategic relationships, significant sales of our common stock by existing stockholders, including one or more of our strategic partners, and other developments affecting us or our competitors could cause the market price of our common stock to fluctuate substantially. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. This volatility has affected the market prices of securities issued by many companies for reasons unrelated to their operating performance and may adversely affect the price of our common stock. In addition, we may be subject to additional securities class action litigation as a result of volatility in the price of our common stock, which could result in substantial costs and diversion of management s attention and resources and could harm our stock price, business, prospects, results of operations and financial condition.

Our failure to comply with NASDAQ s listing standards could result in the delisting of our common stock by NASDAQ from the NASDAQ Global Market and severely limit the ability to sell our common stock.

Our common stock is currently traded on the NASDAQ Global Market. Under NASDAQ s listing maintenance standards, if the closing bid price of our common stock is under $1.00 per share for 30 consecutive trading days, NASDAQ will notify us that we may be delisted from the NASDAQ Global Market. If the closing bid price of our common stock does not thereafter regain compliance for a minimum of 10 consecutive trading days during the 90 days following notification by NASDAQ, NASDAQ may delist our common stock from trading on the NASDAQ Global Market. There can be no assurance that our common stock will remain eligible for trading on the NASDAQ Global Market. In addition, if our common stock is delisted, our stockholders would not be able to sell our common stock on the NASDAQ Global Market, and their ability to sell any of our common stock would be severely, if not completely, limited.

On October 17, 2008, the NASDAQ Stock Market, citing almost unprecedented turmoil in U.S. and world financial markets issued a release temporarily suspending through January 16, 2009 its continued listing requirements related to minimum bid price set forth in Marketplace Rule 4310(c)(4) and market value of shares set forth in Marketplace Rule 4310(c)(7). On December 19, 2008, the NASDAQ Stock Market extended the temporary suspension until April 20, 2009. There can be no assurance that the temporary suspension of such rules will be extended beyond April 20, 2009. If the suspension of such rules is lifted, there can be no assurance that we will be able to maintain compliance with the listing requirements. On March 5, 2009, the per share price of our common stock closed at $0.71 on the NASDAQ Global Market. If we are not able to maintain compliance with such continuing listing requirements beginning April 20, 2009 , our stock may be delisted from the NASDAQ Global Market, which could have a negative effect on the price of our common stock, as well as on our ability to raise additional funds.

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If we do not realize the expected benefits from our restructuring plans, our business prospects may suffer and our operating results and financial condition would be adversely affected.

On June 10, 2008 and December 18, 2008, the Company adopted restructuring plans. If we are unable to realize the benefits from our restructuring plans, our business prospects may suffer and our operating results and financial condition would be adversely affected. Details of the Company s restructuring plans are available in previously filed Form 8-K reports dated June 10, 2008 and December 18, 2008 as filed on June 16, 2008 and December 22, 2008, respectively.

Adverse changes in general economic conditions in the United States or any of the major countries in which we do business could adversely affect our operating results.

As a global company, we are subject to the risks arising from adverse changes in global economic conditions. For example, as a result of the recent financial crisis in the credit markets, softness in the housing markets, difficulties in the financial services sector and continuing economic uncertainties, the direction and relative strength of the U.S. economy has become increasingly uncertain. If economic growth in the United States and other countries continues to slow or recede, our current or potential customers may delay or reduce technology purchases. This could result in reductions in sales of our products, longer sales cycles, slower adoption of new technologies and increased price competition, which could materially and adversely affect our business, results of operations and financial condition.

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Item 1B. Unresolved Staff Comments

We have received no written comments regarding our periodic or current reports from the staff of the Securities and Exchange Commission that were issued 180 days or more preceding the end of our 2008 fiscal year.

Item 2. Properties

Our principal executive offices are located in Latham, New York. At our 36-acre campus, we own a 56,000 square foot research and development center, a 32,000 square foot office building and a 50,000 square foot manufacturing facility and believe that these facilities are sufficient to accommodate our anticipated production volumes for at least the next two years. Our principal executive office also leases a 25,000 square foot warehouse facility in New York.

In connection with the acquisitions of Cellex and General Hydrogen, we also lease two facilities in Richmond, British Columbia with combined square footage of approximately 70,200 square feet to accommodate office, prototyping, and research and development activities.

The Company also leases approximately 14,000 square feet of office and lab space in Holland, approximately 9,000, 6,000 and 900 square feet of office space in Ohio, Tennessee and Washington D.C., respectively.

Item 3. Legal Proceedings

In May 2008, the Company filed a lawsuit against UBS Financial Services Inc. and UBS AG in the United States District Court, Northern District of New York, the financial advisor that placed the Company in certain auction rate debt securities held in the Company's investment portfolio. The lawsuit seeks a return of the $62.8 million of Company funds UBS invested in auction rate debt securities in contravention to the Company's investment policy, among other damages.

On December 15, 2008, Plug Power Inc. (Plug or the Company) accepted an offer by UBS AG (UBS) of certain rights to cause UBS to purchase, at a future date, auction rate debt securities owned by the Company. The repurchase rights are offered in connection with UBS s obligations under settlement agreements with the U.S. Securities and Exchange Commission and other federal and state regulatory authorities. The offering, the settlement agreements, and the respective rights and obligations of the parties, are described in a prospectus issued by UBS dated October 7, 2008, File No. 333-153882 (the Prospectus). As a result of accepting UBS s offer, the Company can require UBS to repurchase at par value all of the auction rate debt securities held by the Company at any time during the period from June 30, 2010 through July 2, 2012 (if the Company s auction rate debt securities have not previously been sold by the Company or by UBS on its behalf), and pending litigation between the parties has been dismissed with prejudice.

In connection with the Prospectus offering, the Company also entered into a Credit Line Agreement with UBS Credit Corp. that provides the Company with a credit line of up to $62.875 million with the Company s auction rate debt securities pledged as collateral. The Company has drawn down the full amount of the credit line. In accordance with the offering by UBS, the loan will be treated as a no net cost loan as defined in the Prospectus. The loan will bear interest at a rate equal to the average rate of interest paid to Plug Power on the pledged auction rate debt securities such that the net interest cost to Plug Power will be zero. Though the loan is payable on demand, if UBS Credit Corp. should exercise its right to demand repayment of any portion of the loan prior to the date the Company can exercise its repurchase rights, UBS and certain of its affiliates will arrange for alternative financing on terms and conditions substantially the same as those contained in the loan. If alternative financing cannot be established, then UBS or one of its affiliates will purchase the Company s pledged auction rate debt securities at par. As a result, the loan and any alternative financing will not be payable by the Company prior to the time that the Company can require UBS to repurchase the pledged auction rate debt securities in full satisfaction of the outstanding amounts on the Line of Credit. Proceeds of sales of the Company s auction rate debt securities will first be applied to repayment of the credit line with the balance, if any, to be maintained by the Company. UBS has previously provided investment management services for a portion of the Company s investment portfolio.

Item 4. Submission of Matters to a Vote of Security Holders

None.

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PART II

Item 5. Market for Registrant s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

During the years ended December 31, 2008 and 2007, we issued 379,189 and 279,054 shares of our common stock in connection with matching contributions under our 401(k) Savings & Retirement Plan. The issuance of these shares is exempt from registration under Section 3(a)(2) of the Securities Act of 1933, as amended.

Market Information. Our common stock is traded on the NASDAQ Global Market under the symbol PLUG. As of March 2, 2009, there were approximately 2,806 record holders of our common stock. However, management believes that a significant number of shares are held by brokers under a nominee name and that the number of beneficial shareholders of our common stock exceeds 52,000. The following table sets forth high and low last reported sale prices for our common stock as reported by the NASDAQ Global Market for the periods indicated:

	Sales prices	
	High	**Low**
2008		
1st Quarter	$ 4.17	$ 2.52
2nd Quarter	$ 3.58	$ 2.32
3rd Quarter	$ 2.91	$ 0.90
4th Quarter	$ 1.55	$ 0.69
2007		
1st Quarter	$ 3.96	$ 2.86
2nd Quarter	$ 3.49	$ 2.90
3rd Quarter	$ 3.33	$ 2.49
4th Quarter	$ 4.39	$ 2.97

Dividend Policy. We have never declared or paid cash dividends on our common stock and do not anticipate paying cash dividends in the foreseeable future. Any future determination as to the payment of dividends will depend upon capital requirements and limitations imposed by our credit agreements, if any, and such other factors as our board of directors may consider.

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Five-Year Performance Graph . Below is a line graph comparing the percentage change in the cumulative total return on the Company s common stock, based on the market price of the Company s common stock, with the total return of companies included within the NASDAQ Market Index and the companies included within the Russell 300 Technology Index for the period commencing December 31, 2003 and ending December 31, 2008. The calculation of the cumulative total return assumes a $100 investment in the Company s common stock, the NASDAQ Market Index and the Russell 300 Technology Index on December 31, 2003 and the reinvestment of all dividends.

Index	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
PLUG POWER INC.	100.00	84.28	70.76	53.66	54.48	14.07
RUSSELL 300 TECHNOLOGY INDEX	100.00	105.58	111.90	123.31	145.69	83.38
NASDAQ MARKET INDEX	100.00	108.59	110.08	120.56	132.39	78.72

See also Part III Item 12 in this Annual Report on Form 10-K for additional detail related to security ownership and related stockholder matters, and for additional detail on equity compensation plan matters.

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Item 6. Selected Financial Data

The following tables set forth selected financial data and other operating information of the Company. The selected statements of operations and balance sheet data for 2008, 2007, 2006, 2005, and 2004 as set forth below are derived from the audited consolidated financial statements of the Company. The information is only a summary and you should read it in conjunction with the Company s audited consolidated financial statements and related notes and other financial information included herein and Management s Discussion and Analysis of Financial Condition and Results of Operations.

	Years Ended December 31,				
	2008	**2007**	**2006**	**2005**	**2004**
	(in thousands, except per share data)				
Statements Of Operations:					
Product and service revenue	$ 4,667	$ 3,082	$ 2,657	$ 4,881	$ 5,306
Research and development contract revenue	13,234	13,189	5,179	8,606	10,835
Total revenue	17,901	16,271	7,836	13,487	16,141
Cost of product and service revenues	11,442	9,399	4,833	4,098	5,368
Cost of research and development contract revenues	21,505	19,045	7,637	12,076	13,474
In-process research and development					
Research and development expense	34,987	39,218	41,577	35,632	32,453
Selling, general and administrative expenses	28,333	19,323	12,268	8,973	8,423
Goodwill impairment charge	45,843				
Amortization of intangible assets	2,225	1,614		687	2,750
Other income (expense), net	4,734	11,757	8,169	(3,764)	(412)
Net loss	$ (121,700)	$ (60,571)	$ (50,310)	$ (51,743)	$ (46,739)
Loss per share, basic and diluted	$ (1.36)	$ (0.69)	$ (0.58)	$ (0.66)	$ (0.64)
Weighted average number of common shares outstanding	89,383	87,342	86,100	78,463	73,126
Balance Sheet Data:					
(at end of the period)					
Unrestricted cash, cash equivalents, trading securities and available-for-sale securities	$ 157,339	$ 165,701	$ 269,123	$ 97,563	$ 66,849
Total assets	209,112	268,392	307,920	139,784	117,997
Borrowings under line of credit	62,875				
Current portion of long-term obligations	401	1,384		527	427

Long-term obligations	1,313	4,580	1,112	4,659	4,996
Stockholders equity	125,864	248,900	294,528	124,955	102,113
Working capital	86,171	163,906	267,002	95,511	64,073

Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations

The discussion contained in this Form 10-K contains forward-looking statements, within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, that involve risks and uncertainties. Our actual results could differ materially from those discussed in this Form 10-K. In evaluating these statements, you should review Part I, Item 1A: Risk Factors and our Consolidated Financial Statements and notes thereto included in Part II, Item 8: Financial Statements and Supplementary Data of this Form 10-K.

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Overview

Plug Power Inc. is a development stage enterprise involved in the design, development and manufacture of fuel cell systems for material handling and stationary power markets worldwide. The Company is a development stage enterprise because substantially all of the Company s resources and efforts are aimed at the discovery of new knowledge that could lead to significant improvement in fuel cell reliability, durability and affordability, and the establishment, expansion and stability of markets for the Company s products. We are focused on proton exchange membrane, or PEM, fuel cell and fuel processing technologies and fuel cell/battery hybrid technologies, from which multiple products are available.

The Company continues to experience significant net outflows of cash from operations and devotes significant efforts towards financial planning in order to forecast future cash spending and the ability to continue product research and development activities. We continue to survey the market to determine the most solid path to profitability for Plug Power. Currently, the Company s primary focus and resources are placed on our GenDrive solution for the material handling market. Fuel cell technology within the Company s targeted market, material handling power, and secondary markets, remote prime, residential and backup power, is still early in the technology adoption life cycle.

We currently offer our hydrogen fueled GenDrive power unit for commercial sale to material handling (forklift) applications, with a focus on multi-shift high volume manufacturing and high throughput distribution sites. We have sold, on commercial terms, two product offerings to target customers including Wal-Mart, Bridgestone Firestone and Nestle Waters. Our sales to Central Grocers and Sysco Foods involve Greenfield conversion sites. Greenfield sites offer the potential for the greatest financial benefits to our customers by eliminating the need for customers to make capital investments in batteries and the associated chargers, storage and changing systems.

Additionally, we continue to develop our low-temperature remote-prime, and high-temperature residential GenSys continuous power products. Our low-temperature GenSys unit successfully completed a field trial in rural India in 2008. It is offered commercially to remote telecommunications providers whose sites are located where the grid is unreliable or non-existent. Our high-temperature GenSys unit will be tested by the U.S. Department of Energy and National Grid during field trials in 2009. Learning from the trial will help determine system refinements for incorporation into the next-generation system design.

In 2008, manufacturing and sales support was given to our GenCore product which provides back-up power to businesses and government in critical infrastructure, specifically in the wireless and wireline telecommunications market. We continue to work with certain established customers on future initiatives related to this product.

As an extension of our GenSys development work, we developed technology in support of the automotive fuel cell market under a series of agreements with Honda R&D Co Ltd. of Japan (Honda), a subsidiary of Honda Motor Co., Ltd. In 2008 we continued our work with Honda, maintaining the phase 4 system at Honda s facility in Torrance, California.

We also form relationships with customers and enter into development and demonstration programs with government agencies and other energy providers. Many of our initial sales of GenCore, GenDrive and GenSys are contract-specific arrangements containing multiple obligations that may include a combination of fuel cell systems, continued service, maintenance, a supply of hydrogen and other support. The multiple obligations within our contractual arrangements are not accounted for separately based on our limited commercial experience and lack of evidence of fair value for the separate elements. As a result, we defer recognition of product and service revenue and recognize revenue on a straight-line basis over the contractual terms as the continued service, maintenance and other support obligations expire, which are may be for periods of twelve (12) to thirty (30) months or in some cases as long as (8) eight years. See Critical Accounting Policies and Estimates Revenue Recognition. Our customers have no special right of return, price protection allowances or other sales incentives. We do offer a discount from our manufacturer s suggested retail price to resellers to allow for the mark-up of the reseller.

As we gain experience, including field experience relative to service and warranty of our initial products, the fair values for the multiple elements within our future contracts may become determinable and we may, in future periods, recognize product revenue upon delivery or installation of the product, or we may continue to defer recognition, based on application of appropriate guidance within EITF 00-21, Accounting for Revenue Arrangements with Multiple Deliverables, or changes in the manner in which we structure contractual agreements, including our agreements with distribution partners.

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Our cash requirements depend on numerous factors, including completion of our product development activities, ability to commercialize our fuel cell systems, market acceptance of our systems and other factors. We expect to pursue the expansion of our operations through internal growth and strategic acquisitions. As of December 31, 2008, we had cash and cash equivalents of $80.8 million, trading securities of $52.7 million, available-for-sale securities of $23.8 million and working capital of $86.2 million. See Liquidity and Capital Resources below.

During the year ended December 31, 2008, cash used for operating activities was $56.6 million, consisting primarily of a net loss of $121.7 million offset, in part, by non-cash expenses in the amount of $59.8 million, including $6.6 million for amortization and depreciation, $8.6 million for stock based compensation, $45.8 million for goodwill impairment, $10.2 million other than temporary impairment loss on available-for-sale securities, a $10.2 million gain on auction rate debt securities repurchase agreement, and a $1.2 million gain on termination of repayable government assistance. Cash provided by investing activities for the year ended December 31, 2008 was $65.7 million, consisting of $67.1 million of maturities, net of purchases, of available-for-sale securities, offset by $1.4 million used to purchase property, plant and equipment. Cash provided by financing activities was approximately $60.2 million consisting primarily of proceeds from borrowings under line of credit of $62.9 million.

We have financed our operations from inception through December 31, 2008 primarily from the sale of equity (including those related to stock-based compensation), which has provided cash in the amount of $636.3 million since inception. Also since inception, cumulative net cash used in operating activities has been $454.3 million, and cash used in investing activities has been $154.9 million, including our purchase of property, plant and equipment of $38.3 million, our net investments in available-for-sale securities in the amount of $86.5, and cash used for acquisitions of $19.3 million, net of cash received.

Subsequent to December 31, 2008, we issued 1,349,772 shares of common stock for the achievement of scorecard objectives in 2008.

Recent Developments

Goodwill Impairment. The Company performs its annual goodwill assessment under SFAS 142 at the date of its fiscal year end. As a result of this assessment, the Company determined that a goodwill impairment had occurred and recorded a non-cash goodwill impairment charge of $45.8 million. See Note 7 of the Notes to Consolidated Financial Statements.

Credit Line Agreement and Auction Rate Security Repurchase Agreement. In December 2008, the Company entered into a Credit Line Agreement with a third-party lender with a maximum availability of $62.9 million. As of December 31, 2008, the Company has drawn down $62.9 million on this line of credit. The Company s auction rate securities included in trading securities on the consolidated balance sheet are pledged as collateral for the Credit Line Agreement. The fair value of the auction rate securities is $52.7 million at December 31, 2008. The Credit Line Agreement bears interest at a variable rate equal to the average rate of interest earned by the Company on the auction rate securities pledged as collateral for the Credit Line Agreement. The interest rate on the Credit Line Agreement was 2.418% at December 31, 2008.

The Credit Line Agreement is repayable on demand by the third-party lender. If the third-party lender exercises its right to demand repayment of the advances under the Credit Line Agreement prior to June 30, 2010 (the date upon which the Company can first exercise its rights under the Repurchase Agreement discussed below), the third-party lender is required to arrange alternative financing on terms substantially the same as the Credit Line Agreement or the third party lender must repurchase the auction rate securities pledged as collateral for the Credit Line Agreement at their par value, which is $62.9 million at December 31, 2008.

In December 2008, the Company has also entered into a Repurchase Agreement with the third-party lender such that the Company may require the third-party lender to repurchase the auction rate securities pledged as collateral for the Credit Line Agreement, at their par value, commencing June 30, 2010 and through July 2, 2012. At December 31, 2008 the fair value of this item is $10.2 million and is recorded as gain on auction rate debt securities repurchase agreement in the consolidated statements of operations.

Restructuring.

On June 10, 2008, the Company adopted a restructuring plan to become a market and sales driven organization. The Company has refocused on the GenDrive motive power product where there has been significant customer interest in fuel cell power units. As part of the restructuring, the Company has reduced its workforce, cut back discretionary spending, and deferred non strategic projects. As a result of the reduced workforce and contract cancellation, the Company recorded restructuring charges in the amount of $3,744,801 within selling, general and administrative expenses in the consolidated statement of operations for 2008. At December 31, 2008, $402,721 remains as accrued expenses on the consolidated balance sheet.

On December 18, 2008, the Company adopted a restructuring plan intended to focus the Company on revenue growth, improve organizational efficiency and position the Company for long-term profitability. As part of this plan, the Company implemented a reduction in workforce by eliminating 90 positions in addition to terminating purchase commitments and charging off inventory related to lapsed product lines. As a result, the Company recorded restructuring charges in the amount of $3,990,364 within selling, general and administrative expenses and $2,295,370 in cost of product and service revenue in the consolidated statement of operations for the twelve months ended December 31, 2008. At December 31, 2008, $3,990,364 remains as accrued expenses on the consolidated balance sheets.

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Class B Stock Conversion. On December 23, 2008, the Company announced the sale by Smart Hydrogen Inc. to OJSC (Third Generation Company of the Wholesale Electricity Market) ("OGK-3") of all 395,000 shares of the Company's Class B Capital Stock as well as 5,126,939 shares of the Company's common stock, the automatic conversion of the Company's Class B Capital Stock into 39,500,000 shares of common stock, and the termination of all the rights and obligations attached to the Class B Capital Stock. The rights and obligations attached to the Class B Capital Stock that terminated include but are not limited to the right to appoint directors, veto rights and voting support obligations under the Investor Rights Agreement dated as of June 29, 2006, as amended (the "Investor Rights Agreement"). OGK-3 has executed a joinder agreement to the Investor Rights Agreement and is prohibited from transferring its shares of the Company's Common Stock to a competitor of the Company. OGK-3 is also bound by the same standstill provisions that applied to Smart Hydrogen, as set forth in the Investor Rights Agreement. This transfer and conversion triggered a change of control pursuant to Section 17 of our 1999 Stock Option and Incentive Plan; and, therefore, each outstanding stock option automatically became fully exercisable and conditions and restrictions on each outstanding restricted stock award, deferred stock award and performance share award that relates solely to the passage of time and continued employment were removed.

Results of Operations

Product and service revenue. We defer recognition of product and service revenue at the time of shipment and recognize revenue as the continued service, maintenance and other support obligations expire.

Many of our initial sales of product contain multiple obligations that may include a combination of fuel cell systems, continued service, maintenance, fueling and other support. While contract terms generally require payment shortly after shipment or delivery and installation of the fuel cell system and are not contingent on the achievement of specific milestones or other substantive performance, the multiple obligations within our contractual arrangements are generally not accounted for separately based on our limited experience and lack of evidence of fair value of the different components. As a result, we defer recognition of product and service revenue and recognize revenue on a straight-line basis as the continued service, maintenance and other support obligations expire, which are generally for periods of twelve to thirty months, or in some cases as long as eight years. In the case of our limited consignment sales, we do not begin recognizing revenue on a deferred basis until the customer has accepted the product, at which time the risks and rewards of ownership have transferred, the price is fixed and we have a reasonable expectation of collecting upon billing. See Critical Accounting Policies and Estimates Revenue Recognition.

Product and service revenue for the year ended December 31, 2008 increased $1.6 million, or 51%, to $4.7 million from $3.1 million for the year ended December 31, 2008. The increase is related to increased system shipments and the revenue recognized on those shipments as well as an increase in non-deferred revenue. The non-deferred revenue represents revenue associated with replacement parts or services not covered by service agreements or other similar types of sales where the Company has no continuing obligation after the parts are shipped or delivered or after services are rendered.

In the product and service revenue category, during the year ended December 31, 2008, we shipped 273 fuel cell systems compared to 204 fuel cell systems during the year ended December 31, 2007. In the year ended December 31, 2008, we recognized $2.3 million of revenue for products shipped or delivered or services rendered in the year ended December 31, 2008, which includes $1.1 million of non-deferred revenue as compared to $1.1 million of revenue recognized in the year ended December 31, 2007 for products shipped or delivered or services rendered in the year ended December 31, 2007, which includes $365,000 of non-deferred revenue. Additionally, in the year ended

December 31, 2008 we recognized approximately $2.4 million of product and services revenue originally deferred at December 31, 2007, whereas in the year ended December 31, 2007 we recognized $2.0 million of revenue originally deferred at December 31, 2006.

Product and service revenue for the year ended December 31, 2007 increased $425,000 or 16% to $3.1 million from $2.7 million for the year ended December 31, 2006. Approximately $289,000 of the increase is related to the acquisitions of Cellex and General Hydrogen. The remaining amount of the increase is related to increased system shipments in 2007 and the revenue recognized on those shipments, partially offset by decreased revenue recognition for systems shipped or delivered prior to 2007. Additionally, we recognized $365,000 and $291,000 of non deferred revenue during the years ended December 31, 2007 and 2006, respectively. This revenue represents revenue associated with replacement parts or services not covered by service agreements or other similar types of sales where the Company has no continuing obligation after the parts are shipped or services rendered.

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In the product and service revenue category, during 2007 the Company shipped 204 fuel cell systems compared to 109 fuel cell systems during 2006. In 2007, we recognized $1.1 million of revenue for products shipped or services rendered in 2007 compared to $800,000 of revenue recognized in 2006 for products shipped or services rendered in 2006. Additionally, in 2007 we recognized approximately $2.0 million of product and services revenue originally deferred at December 31, 2006 whereas in 2006 we also recognized $1.9 million of revenue originally deferred at December 31, 2005.

Research and development contract revenue. Research and development contract revenue primarily relates to cost reimbursement research and development contracts associated with the development of PEM fuel cell technology. We generally share in the cost of these programs with our cost-sharing percentages generally ranging from 22% to 78% of total project costs. Revenue from time and material contracts is recognized on the basis of hours expended plus other reimbursable contract costs incurred during the period. Revenue from fixed fee contracts is recognized on the basis of percentage of completion. We expect to continue certain research and development contract work that is directly related to our current product development efforts.

Research and development contract revenue for the years ended December 31, 2008 was $13.2 million compared to $13.2 million in 2007. The acquisitions in 2007 increased research and development contract revenue $2.2 million as a result of twelve full months of operations in 2008 versus 2007, offset by a decrease of $2.2 million related to a completion of contracts from prior years. In the research and development contract revenue category, during the twelve months ended December 31, 2008 we shipped 5 GenSys fuel cell systems and 5 GenDrive fuel cell systems.

Research and development contract revenue for the year ended December 31, 2007 increased to $13.2 million from $5.2 million in 2006. The acquisitions of Cellex and General Hydrogen accounted for approximately $1.2 million of the increase. Of the remaining $6.8 million increase, approximately $2.2 million resulted from additional U.S. Department of Energy (DOE) contracts awarded in 2007; $3.5 million resulted from 4 additional contracts received from the U.S. Department of Defense (DOD) in 2007; and revenue from new contracts with NASA, the European Union, and Montana State University contributed approximately $1.8 million in 2007. These increases were partially offset by decreases resulting from completion of activities under other government contracts in 2006.

Cost of product and service revenue. Cost of product and service revenue includes the direct material cost incurred in the manufacture of the products we sell as well as the labor and material costs incurred for product maintenance, replacement parts and service under our contractual obligations.

Cost of product and service revenue for the year ended December 31, 2008 increased $2.0 million to $11.4 million compared to $9.4 million in 2007. The increase was related to $2.3 in inventory write-offs associated with the corporate restructuring plan announced in December, 2008, coupled with higher cost of product and service revenues recorded due to an increased in shipments in 2008. This was partially offset by one-time charges of $2.0 million for certain future expected service and warranty costs for existing units in the field recorded in the second quarter of 2007. Also contributing to the increase was an increase in servicing costs of the larger installed base.

Cost of product and service revenue for the year ended December 31, 2007 increased $4.6 million to $9.4 million compared to $4.8 million in 2006. Approximately $713,000 of the increase is related to the acquisitions of Cellex and General Hydrogen. The remaining increase of $3.9 million primarily related to a $2.0 million charge for certain future expected service and warranty costs for existing fuel cell units in the field. Also contributing to the increase was an increase in shipments and servicing costs of the larger installed base.

Cost of research and development contract revenue. Cost of research and development contract revenue includes costs associated with research and development contracts including: cash and non-cash compensation and benefits for engineering and related support staff, fees paid to outside suppliers for subcontracted components and services, fees paid to consultants for services provided, materials and supplies used and other directly allocable general overhead costs allocated to specific research and development contracts.

Cost of research and development contract revenue for the year ended December 31, 2008 increased $2.5 million to $21.5 million from $19.0 million in 2007. This increase is primarily related to a higher percentage of cost sharing on research and development contracts in 2008.

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Cost of research and development contract revenue for the year ended December 31, 2007 increased $11.4 to $19.0 million from $7.6 million in 2006. The acquisitions of Cellex and General Hydrogen contributed approximately $1.3 million of this increase. The remainder of the increase, about $10.1 million, was associated with the additional effort applied to funded research and development projects commensurate with the additional revenue mentioned above.

Research and development expense. Research and development expense includes: materials to build development and prototype units, cash and non-cash compensation and benefits for the engineering and related staff, expenses for contract engineers, fees paid to outside suppliers for subcontracted components and services, fees paid to consultants for services provided, materials and supplies consumed, facility related costs such as computer and network services, and other general overhead costs associated with our research and development activities.

Research and development expense decreased to $35.0 million for the year ended December 31, 2008 from $39.2 million in 2007. This decrease was a direct result of the corporate restructuring plans announced in June and December of 2008, which included a reduced workforce and a reduction in non-strategic research and development projects. This decrease was largely offset by an increase of $2.0 million, primarily due to a full twelve month period of expense in 2008 related to the acquisition of Cellex and General Hydrogen, versus a partial twelve month period in 2007.

Research and development expense decreased to $39.2 million for the year ended December 31, 2007 from $41.6 million in 2006. The acquisitions of Cellex and General Hydrogen contributed $6.4 million of additional research and development expense which was more than offset by a reduction of nearly $8.8 million related to the activities of the pre-acquisition business. This reduction in expense is primarily related to the Company s ability to receive increased third party funding to perform certain activities necessary to advance our understanding of various types of fuel cell systems consistent with our long-term goal of developing systems and applications. As a result of the receipt of funding for certain research and development programs, the related costs associated with these projects is included in cost of contract research and development revenue as described above.

Selling, general and administrative expenses. Selling, general and administrative expenses includes cash and non-cash compensation, benefits and related costs in support of our general corporate functions, including general management, finance and accounting, human resources, selling and marketing, information technology and legal services.

Selling, general and administrative expenses for the year ended December 31, 2008 increased from the prior year $9.0 million to $28.3 million. Approximately $7.0 million of the increase is related to the corporate restructuring plans announced in June and December of 2008. The remainder of the increase is a direct result of a full twelve month period of expense in 2008 related to the acquisition of Cellex and General Hydrogen, versus a partial twelve month period in 2007.

Selling, general and administrative expenses for the year ended December 31, 2007 increased from the prior year $7.0 million to $19.3 million. Approximately $4.5 million of the increase is related to the acquisition of Cellex and General Hydrogen. The remaining $2.5 million of the increase is primarily related to the increased size of our sales group in an effort to increase market adoption of our fuel cell technology.

Goodwill Impairment. The Company performs its annual goodwill assessment under SFAS 142 at the date of its fiscal year end. As a result of this assessment, the Company determined that a goodwill impairment has occurred and recorded an impairment charge of $45.8 million. See Note 7 (Goodwill and Other Intangible Assets) of the Notes to

Consolidated Financial Statements.

Amortization of intangible assets. Amortization of intangible assets represents the amortization associated with the Company s acquired identifiable intangible assets from Cellex and General Hydrogen, including acquired technology and customer relationships, which are being amortized over eight years.

Amortization of intangible assets increased to $2.2 million for the year ended December 31, 2008, compared to $1.6 million for the year ended December 31, 2007. The increase is related to a full twelve month period of amortization of intangible assets in 2008 as compared to a partial twelve month period in 2007.

Interest and other income and net realized gains from available-for-sale securities. Interest and other income and net realized gains from available-for-sale securities consists primarily of interest earned on our cash, cash equivalents, available-for-sale and trading securities, other income, and the net realized gain from the sale of available-for-sale securities. Interest income on trading securities from the date of the transfer of the auction rate debt securities to trading in December 2008 was not significant.

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Interest and other income and net realized gains from available-for-sale securities decreased $7.2 million to $5.1 million for the year ended December 31, 2008 from $12.3 million for the year ended December 31, 2007. This decrease is primarily related to lower cash balances coupled with lower yields on our investments due to a declining rate environment. In addition, the yield on auction rate debt securities declined significantly in 2008 as compared to 2007 due primarily to the impact of failed auctions related to these securities which began in February 2008. This was partially offset by a $1.2 million gain relating to the termination of Technology Partnerships Canada (TPC) agreements with Cellex and General Hydrogen. Total net realized gains/losses from the sale of available-for-sale securities was a gain of $389,000 and $118,000 and 68,000 for the years ended December 31, 2008, 2007 and 2006 respectively.

Interest income and net realized gains/losses from the sale of available-for-sale securities increased to $12.3 million for the year ended December 31, 2007 from $8.3 million for the year ended December 31, 2006. Nearly all of the increase of $4.0 million was the result of higher yields on our cash and available-for-sale securities in 2007. Total net realized gains from the sale of available-for-sale securities was a gain of $118,000 and $68,000 for the years ended December 31, 2007 and 2006, respectively.

Gain on auction rate debt securities repurchase agreement. In December 2008, the Company entered into a Repurchase Agreement with the third-party lender such that the Company may require the third-party lender to repurchase the auction rate debt securities pledged as collateral for the Credit Line Agreement, at their par value, from June 30, 2010 through July 2, 2012. The Company has elected to record this item at its fair value in accordance with SFAS No. 159, The Fair Value Option for Assets and Financial Liabilities. At December 31, 2008, the fair value of this item is $10.2 million and is recorded as gain on auction rate debt securities repurchase agreement in the consolidated statements of operations.

Impairment loss on available-for-sale securities. Due to the liquidity issues in the credit and capital markets, the market for auction rate debt securities began experiencing auction failures in February 2008 and there have been no successful auctions for the securities held in our portfolio since the failures began. Given the lack of liquidity in the market for auction rate debt securities, the Company concluded that the estimated fair value of these securities has become lower than the cost of these securities, and, based on an analysis of the other than temporary impairment factors, management has determined that this difference represents a decline in fair value that is other than temporary. Accordingly, the Company recorded an other than temporary impairment charge of $10.2 million and $0 million, respectively in the twelve months ended December 31, 2008 and 2007 in the consolidated statements of operations.

As a result of the Repurchase Agreement entered into with a third party lender in December 2008, the Company reclassified the auction rate debt securities from available-for-sale securities to trading securities. The change in the fair value of these trading securities from the date of their transfer into trading through December 31, 2008 was not significant.

Interest and other expense. Interest and other expense consists of interest on repayable government assistance amounts related to the activities of Cellex and General Hydrogen, interest related to the Line of Credit Agreement, and foreign currency exchange gain/(loss).

Interest and other expense for the year ended December 31, 2008 was approximately $401,000, compared to $580,000 for the year ended December 31, 2007. The decrease is related to foreign currency exchange losses from our Canadian operations. Interest expense related to the Credit Line Agreement entered into in December 2008 was not significant.

Interest and other expenses increased approximately $409,000 to $580,000 for the year ended December 31, 2007, compared to $171,000 for the year ended December 31, 2006. This increase is primarily related to foreign currency exchange losses from our newly acquired Canadian operations.

Income taxes. We did not report a benefit for federal and state income taxes in the consolidated financial statements as the deferred tax asset generated from our net operating loss has been offset by a full valuation allowance because it is more likely than not that the tax benefits of the net operating loss carry forward will not be realized.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with generally accepted accounting principles and related disclosures requires management to make estimates and assumptions that affect:

- the amounts reported for assets and liabilities;
- the disclosure of contingent assets and liabilities at the date of the financial statements; and
- the amounts reported for revenues and expenses during the reporting period.

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Specifically, we must use estimates in determining the economic useful lives of assets, including identifiable intangible assets, and various other recorded or disclosed amounts. Therefore, our consolidated financial statements and related disclosures are necessarily affected by these estimates. We evaluate these estimates on an ongoing basis, utilizing historical experience and other methods considered reasonable in the particular circumstances. Nevertheless, actual results may differ significantly from these estimates. To the extent that actual outcomes differ from estimates, or additional facts and circumstances cause management to revise estimates, our financial position as reflected in our consolidated financial statements will be affected. Any effects on business, financial position or results of operations resulting from revisions to these estimates are recorded in the period in which the facts that give rise to the revision become known.

We believe that the following are our most critical accounting policies affected by the estimates and assumptions the Company must make in the preparation of its consolidated financial statements and related disclosures:

Revenue recognition: We are a development stage enterprise currently performing field testing and selling and marketing of our products to a limited number of customers, including distribution center operators, manufacturing facilities, telecom, utilities, and government entities. Our fuel cell systems are designed to replace incumbent electric power technologies in material handling equipment, serve as complementary or replacement power in prime power applications and serve as complementary quality power sources in back-up applications. Our current product offerings are intended to offer complementary, quality power while demonstrating the market value of fuel cells as a preferred form of alternative distributed power generation. Subsequent enhancements to our initial product are expected to expand the market opportunity for fuel cells by lowering the installed cost, decreasing operating and maintenance costs, increasing efficiency, improving reliability, and adding features such as grid independence and co-generation as well as UPS applications.

We apply the guidance within SEC Staff Accounting Bulletin No. 104, Revenue Recognition in Financial Statements (SAB 104), to our initial sales contracts to determine when to properly recognize revenue. Many of our initial sales of product contain multiple obligations that may include a combination of fuel cell systems, continued service, maintenance, a supply of hydrogen and other support. While contract terms generally stipulate that title and risk of ownership pass and require payment upon shipment or delivery of the fuel cell system, or acceptance in the case of certain consignment sales, and also stipulate that payment is not contingent on the achievement of specific milestones or other substantive performance, the multiple obligations within our contractual arrangements are generally not accounted for separately based on our limited experience and lack of evidence of fair value of the different components. As a result, we defer recognition of product and service revenue and recognize revenue on a straight-line basis over the stated contractual term, as the continued service, maintenance and other support obligations expire, which may be for periods of twelve to thirty months or in some cases as long as eight years, or over the anticipated service period if expected to exceed the contractual service period. In the case of our limited consignment sales, we do not begin recognizing revenue on a deferred basis until the customer has accepted the product, at which time the risks and rewards of ownership have transferred, the price is fixed and we have a reasonable expectation of collection upon billing. The costs associated with the product, service and other obligations are generally expensed as they are incurred.

As we gain experience, including field experience relative to service and warranty obligations based on the sales of our initial products, the fair values for the multiple elements within our future contracts may become determinable and we may, in future periods, recognize revenue upon shipment or delivery of the product or we may continue to defer recognition, based on application of appropriate guidance within EITF 00-21, Accounting for Revenue Arrangements with Multiple Deliverables, or changes in the manner in which we structure contractual agreements, including our agreements with distribution partners.

Additionally, our research and development contract revenue primarily relates to cost reimbursement research and development contracts associated with the development of PEM fuel cell technology. The Company generally shares in the cost of these programs with our cost-sharing percentages generally ranging from 22% and 78% of total project costs. Revenue from time and material contracts is recognized on the basis of hours expended plus other reimbursable contract costs incurred during the period. Revenue from fixed fee contracts is recognized on the basis of percentage of completion.

Valuation of long-lived assets: We value long-lived assets at their fair value at the date of acquisition. We utilize third-party valuation experts in our assessments of the fair values of acquired long-lived assets and allocate purchase price to the acquired assets and liabilities assumed accordingly. We assess the impairment of long-lived assets, including identifiable intangible assets, and goodwill, if any, whenever events or changes in circumstances indicate that the carrying value may not be recoverable and, for goodwill, at least annually. Factors we consider important that could trigger an impairment review include, but are not limited to, the following:

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- significant underperformance relative to expected historical or projected future operating results;
- significant changes in the manner of our use of the acquired assets or the strategy for our overall business;
- significant negative industry or economic trends;
- significant decline in our stock price for a sustained period; and
- our market capitalization relative to net book value.

When we determine that the carrying value of long-lived assets, including identifiable intangible assets, and goodwill may not be recoverable based upon the existence of one or more of the above indicators of impairment, we would measure any impairment based upon the provisions of Statement of Financial Accounting Standards, or SFAS, No. 142, Goodwill and Other Intangible Assets and SFAS No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets, as appropriate. Any resulting impairment loss could have a material adverse impact on our financial condition and results of operations.

Goodwill impairment testing is performed at the segment (or reporting unit) level. Currently, the Company s goodwill is evaluated at the entity level as there is only one reporting unit. Goodwill is assigned to reporting units at the date the goodwill is initially recorded. Once goodwill has been assigned to reporting units, it no longer retains association with a particular acquisition, and all of the activities within a reporting unit, whether acquired or organically grown, are available to support the value of the goodwill.

The Company performs its annual goodwill impairment assessment under SFAS 142 at the date of its fiscal year end. Our goodwill impairment test was based on a set of assumptions regarding discounted future cash flows, which represent the Company s best estimate of future performance at this time, as well as consideration of the Company s market capitalization. As a result of this assessment, the Company has determined that a goodwill impairment has occurred and has recorded a non-cash impairment charge of $45.8 million in its consolidated statement of operations for 2008.

The goodwill impairment analysis is dependent on many variables used to determine fair value of the Company overall and the fair value of the Company s assets and liabilities. Please see Note 7 (Goodwill and Other Intangible Assets) of the Notes to Consolidated Financial Statements for a description of the valuation methods and related estimates and assumptions used in our impairment testing. The complexity of the analysis does not permit a simplistic determination of the impact of changes in assumptions.

Accounting for income taxes : 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. As of December 31, 2008, we have recorded a valuation allowance due to uncertainties related to our ability to utilize the net deferred tax assets, primarily consisting of net operating losses and credits which may be carried forward, before they expire. 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. At December 31, 2008 and 2007, our net deferred tax assets have been offset in full by a valuation allowance. As a result, the net provision for income taxes is zero for the years ended December 31, 2008 and 2007. The Company adopted Financial Accounting Standards Board (FASB) Interpretation No. 48, Accounting for Uncertainty in Income Taxes-an interpretation of FASB Statement No. 109 (FIN 48), which clarifies the accounting for uncertainty in tax positions on January 1, 2007. No adjustment of opening balances was required and the adoption of this Interpretation did not have a material impact on the Company s consolidated financial statements.

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Stock Based Compensation : We recognize stock-based compensation expense associated with the vesting of share based instruments in the consolidated statements of operations. Determining the amount of stock-based compensation to be recorded requires us to develop estimates to be used in calculating the grant-date fair value of stock options. We calculate the grant-date fair values using the Black-Scholes valuation model. The Black-Scholes model requires us to make estimates of the following assumptions:

Expected volatility The estimated stock price volatility was derived based upon a blend of implied volatility (i.e. management s expectation of volatility) and the Company s actual historic stock prices over the expected life of the options, which represents the Company s best estimate of expected volatility.

Expected option life The Company s estimate of an expected option life was calculated in accordance with the Staff Accounting Bulletin No. 110 (SAB 110) simplified method for calculating the expected term assumption. The simplified method is a calculation based on the contractual life of the associated options.

Risk-free interest rate We use the yield on zero-coupon U.S. Treasury securities for a period that is commensurate with the expected life assumption as the risk-free interest rate.

The amount of stock-based compensation recognized during a period is based on the value of the portion of the awards that are ultimately expected to vest. SFAS 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term forfeitures is distinct from cancellations or expirations and represents only the unvested portion of the surrendered option. We review historical forfeiture data and determine the appropriate forfeiture rate based on that data. We re-evaluate this analysis periodically and adjust the forfeiture rate as necessary. Ultimately, we will recognize the actual expense over the vesting period only for the shares that vest.

Auction rate securities and auction rate debt securities repurchase agreement : We value our auction rate debt securities and auction rate debt securities repurchase agreement based upon factors specific to these securities, including duration, tax status (taxable or tax-exempt), credit quality, the existence of insurance wraps, and the composition of the underlying student loans (Federal Family Education Loan Program or private loans). Assumptions are made about future cash flows based upon interest rate formulas as described in Note 4, Fair Value Measurements. Also, our valuation includes estimates of market data including yields or spreads of similar trading instruments, when available, or assumptions believed to be reasonable. Illiquid credit markets and volatile equity markets have combined to increase the uncertainty inherent in our estimates and assumptions. As future events cannot be determined with precision, actual results could differ significantly from our estimates.

Recent Accounting Pronouncements

A discussion of recently adopted and new accounting pronouncements is included in Note 2 (Summary of Significant Accounting Policies) of the Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Liquidity and Capital Resources

Our cash requirements depend on numerous factors, including completion of our product development activities, our ability to commercialize our energy products, market acceptance of our systems and other factors. We expect to devote substantial capital resources to continue our development programs directed at commercializing our energy products for worldwide use, hiring and training our sales and service staff, developing and expanding our manufacturing capacity and continuing to expand our research and development activities. We expect to pursue the expansion of our operations through internal growth and strategic acquisitions and expect that such activities will be funded from existing cash, cash equivalents, trading securities, available-for-sale securities, and the issuance of additional equity or debt securities or additional borrowings subject to market and other conditions. The failure to raise the funds necessary to finance our future cash requirements or consummate future acquisitions could adversely affect our ability to pursue our strategy and could negatively affect our operations in future periods. We anticipate incurring substantial additional losses over at least the next several years and believe that our current cash, cash equivalents, trading securities and available-for-sale securities balances will provide sufficient liquidity to fund operations for at least the next twelve months.

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Several key indicators of liquidity are summarized in the following table:

	Years ended December 31,		
(in thousands)	**2008**	**2007**	**2006**
Cash and cash equivalents at end of period	$ 80,845	$ 12,077	$ 26,900
Trading securities auction rate debt securities	52,651	-	-
Available-for-sale securities at end of period	23,844	153,624	242,223
Working capital at end of period	86,171	163,906	267,002
Net loss	121,700	60,571	50,310
Net cash used in operating activities	56,552	49,311	46,107
Purchase of property, plant and equipment	1,419	2,944	1,275

Included in trading securities and working capital at December 31, 2008 and in available-for-sale securities and working capital at December 31, 2007, respectively, is $52.7 million and $90.8 million of auction rate debt securities. The auction rate debt securities are secured by student loans which are generally guaranteed by the Federal government. These auction rate debt securities are structured to be tendered at par, at the investor s option, at auctions occurring every 27-30 days. However, due to the liquidity issues in the credit and capital markets, the market for auction rate debt securities began experiencing auction failures in February 2008 and there have been no successful auctions for the securities held in our portfolio since the failures began. We continue to receive interest on these securities, subject to an interest rate cap formula for each security as periodically adjusted in accordance with the respective securities agreement. At December 31, 2008, the interest rates ranged from 1.55% to 3.43% on the auction rate debt securities as compared to the interest rate range at December 31, 2007 from 5.6% to 6.85%. See Note 8, Credit Line Agreement and Auction Rate Debt Securities Repurchase Agreement.

The Company has pledged these securities as collateral to a third-party lender for a Credit Line Agreement (See Note 8, Credit Line Agreement and Auction Rate Debt Securities Repurchase Agreement) entered into in December 2008. Given the lack of liquidity in the market for auction rate debt securities, the estimated fair value of these auction rate debt securities have become lower than their cost and, based on an analysis of other than temporary impairment factors, management has determined, beginning in the first quarter of 2008, that this difference represents a decline in value that is other than temporary. Accordingly, the Company recorded an other than temporary impairment charge of $10.2 million for the year ended December 31, 2008 in the consolidated statements of operations. In December 2008, the Company entered into a Repurchase Agreement with a third-party lender such that the Company may require the third-party lender to repurchase the auction rate debt securities pledged as collateral for the Credit Line Agreement (See Note 8, Credit Line Agreement and Auction Rate Debt Securities Repurchase Agreement) , at their par value, from June 30, 2010 through July 2, 2012. The fair value of the Repurchase Agreement at its origination was $10.2 million and was recorded as income in the 2008 consolidated statement of operations.

We continue to monitor the market for auction rate debt securities and will be required to mark the securities to fair value which could negatively affect our financial condition, liquidity and reported operating results. We will also be monitoring and marking to fair value the auction rate debt securities repurchase agreement. The Company expects that the fair adjustments of the auction rate debt securities will generally be offset by the fair value adjustments of the auction rate debt securities repurchase agreement.

In May 2008, the Company filed a lawsuit against UBS Financial Services Inc. and UBS AG in the United States District Court, Northern District of New York, the financial advisor that placed the Company in certain auction rate debt securities held in the Company's investment portfolio. The lawsuit seeks a return of the $62.8 million of Company funds UBS invested in auction rate debt securities in contravention to the Company's investment policy, among other damages.

On December 15, 2008, Plug Power Inc. (Plug or the Company) accepted an offer by UBS AG (UBS) of certain rights to cause UBS to purchase, at a future date, auction rate debt securities owned by the Company. The repurchase rights are offered in connection with UBS s obligations under settlement agreements with the U.S. Securities and Exchange Commission and other federal and state regulatory authorities. The offering, the settlement agreements, and the respective rights and obligations of the parties, are described in a prospectus issued by UBS dated October 7, 2008, File No. 333-153882 (the Prospectus). As a result of accepting UBS s offer, the Company can require UBS to repurchase at par value all of the auction rate debt securities held by the Company at any time during the period from June 30, 2010 through July 2, 2012 (if the Company s auction rate debt securities have not previously been sold by the Company or by UBS on its behalf), and pending litigation between the parties has been dismissed with prejudice.

In connection with the Prospectus offering, the Company also entered into a loan agreement with UBS Credit Corp. that provides the Company with a credit line of up to $62.875 million with the Company s auction rate debt securities pledged as collateral. The Company has drawn down the full amount of the credit line. In accordance with the offering by UBS, the loan will be treated as a no net cost loan as defined in the Prospectus. The loan will bear interest at a rate equal to the average rate of interest paid to Plug Power on the pledged auction rate debt securities such that the net interest cost to Plug Power will be zero. Though the loan is payable on demand, if UBS Credit Corp.

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should exercise its right to demand repayment of any portion of the loan prior to the date the Company can exercise its repurchase rights, UBS and certain of its affiliates will arrange for alternative financing on terms and conditions substantially the same as those contained in the loan. If alternative financing cannot be established, then UBS or one of its affiliates will purchase the Company s pledged auction rate debt securities at par. As a result, the loan and any alternative financing will not be payable by the Company prior to the time that the Company can require UBS to repurchase the pledged auction rate debt securities. Proceeds of sales of the Company s auction rate debt securities will first be applied to repayment of the credit line with the balance, if any, for the Company s account. UBS has previously provided investment management services for a portion of the Company s investment portfolio.

Our cash requirements depend on numerous factors, including completion of our product development activities, ability to commercialize our fuel cell systems, market acceptance of our systems and other factors. We expect to pursue the expansion of our operations through internal growth and strategic acquisitions. As of December 31, 2008, we had cash and cash equivalents of $80.8 million, trading securities of $52.7 million, available-for-sale securities of $23.8 million and working capital of $86.2 million.

During the year ended December 31, 2008, cash used for operating activities was $56.6 million, consisting primarily of a net loss of $121.7 million offset, in part, by non-cash expenses in the amount of $59.8 million, including $6.6 million for amortization and depreciation, $8.6 million for stock based compensation, $45.8 million for goodwill impairment charge, $10.2 million other than temporary impairment loss on available-for-sale securities, a $10.2 million gain on auction rate debt securities repurchase agreement, and a $1.2 million gain on termination of repayable government assistance. Cash provided by investing activities for the year ended December 31, 2008 was $65.7 million, consisting of $67.1 million of maturities, net of purchases, of available-for-sale securities, offset by $1.4 million used to purchase property, plant and equipment. Cash provided by financing activities was approximately $60.2 million consisting primarily of proceeds from borrowings under line of credit of $62.9 million.

We have financed our operations from inception through December 31, 2008 primarily from the sale of equity (including those related to stock-based compensation), which has provided cash in the amount of $636.3 million since inception. Also since inception, cumulative net cash used in operating activities has been $454.3 million, and cash used in investing activities has been $154.9 million, including our purchase of property, plant and equipment of $38.3 million, our net investments in available-for-sale securities in the amount of $86.5, and cash used for acquisitions of $19.3 million, net of cash received.

Other significant transactions impacting our liquidity and capital resources have been as follows:

Mergers & Acquisitions

On April 3, 2007, the Company completed the acquisition of all of the outstanding shares of Cellex, a development stage enterprise, for an aggregate purchase price, including acquisition costs, of $46.1 million. As part of this acquisition, we acquired technology and certain other assets of Cellex as noted in more detail in Note 3 (Acquisitions) of the Notes to Consolidated Financial Statements. The entire $10 million balance of intangible assets has been assigned to acquired technology, which is being amortized over 8 years. The results of Cellex s operations have been included in the consolidated financial statements since that date. Cellex, based in Richmond, British Columbia, develops and commercializes fuel cell solutions that replace the industrial lead acid battery system used today in powering electric lift truck fleets in large-scale distribution centers.

On May 4, 2007, the Company completed the acquisition of all of the outstanding shares of General Hydrogen, a development stage enterprise, for an aggregate purchase price of $12.4 million. The purchase price includes the settlement of $3.0 million in senior secured loans previously made by the Company to General Hydrogen, as well as 571,429 warrants granted to shareholders of General Hydrogen that were valued at $1.4 million. The warrants become exercisable when Plug Power s Common Stock trades at a volume weighted average price of $7.00 or more for 10 consecutive trading days. The warrants carry an exercise price of $.01 per share and expire four years from the date of issuance. As part of this acquisition, we acquired technology and customer relationships and certain other assets of General Hydrogen as noted in more detail in Note 3 (Acquisitions) of the Notes to Consolidated Financial Statements. Of the $6.9 million of intangible assets, $5.9 million has been assigned to acquired technology and $1.0 million has been assigned to customer relationships, both of which are being amortized over 8 years. The results of General Hydrogen s operations have been included in the consolidated financial statements since May 4, 2007. General Hydrogen is located in Richmond, British Columbia, Canada within close proximity to Cellex.

By acquiring both General Hydrogen and Cellex, leaders in their industry, the Company expects to realize significant technological and operational synergies while pursuing high-value applications in the material handling market. As a result of the acquisitions, the Company is expected to be a leading provider of PEM fuel cell power units for electric lift trucks and is targeting the estimated $1.5 billion industrial motive battery market. The acquisitions diversify the Company s product portfolio and add new revenue streams from a potentially significant market.

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During October 2007, Plug Power integrated the operations of both companies into one organization. Further, the Company anticipates that higher volume product manufacturing activities will be established in Plug Power s Latham, N.Y. facility. The Company intends to leverage Plug Power s existing commercial infrastructure and expects to avoid some of the expenditures typically associated with the transition to a manufacturing enterprise

On March 25, 2003, we consummated a merger transaction with H Power pursuant to which we acquired H Power in a stock-for-stock exchange valued at approximately $46.3 million. In connection with the transaction, H Power stockholders received 0.8305 shares of our common stock for each share of H Power common stock held immediately prior to the transaction. Immediately following the transaction H Power became a wholly owned subsidiary of the Company. As part of the acquisition, we acquired intellectual property and certain other assets including cash, cash equivalents and marketable securities of H Power worth approximately $29.6 million, after payment of $7.1 million of certain costs and expenses associated with the consummation of the merger, which were accounted for as additional purchase price.

Public Offerings

In November 1999, we completed an initial public offering of 6,782,900 shares of common stock, which includes additional shares purchased pursuant to exercise of the underwriters over allotment option. We received proceeds of $93.0 million, which was net of $8.7 million of expenses and underwriting discounts relating to the issuance and distribution of the securities.

In July 2001, we completed a follow-on public offering of 4,575,000 shares of common stock, which includes additional shares purchased pursuant to exercise of the underwriters over allotment option. We received proceeds of $51.6 million, which was net of $3.3 million of expenses and underwriting discounts relating to the issuance and distribution of the securities.

In November 2003, the Company completed a public offering of 11,700,000 shares of common stock. We received proceeds of $55.0 million, net of $3.5 million of expenses and placement fees relating to the issuance and distribution of the securities.

In August 2005, the Company completed a public offering of 12,000,000 shares of common stock. We received proceeds of $70.6 million, net of expenses and placement fees relating to the issuance and distribution of the securities.

Private Placements

In July 2001, simultaneous with the closing of the follow-on public offering, we closed a private equity financing of 416,666 shares of common stock to GE Power Systems Equities, Inc., an indirect wholly owned subsidiary of General Electric Company, and 416,666 shares of common stock to Edison Development Corporation, an indirect wholly owned subsidiary of DTE Energy Company, raising an additional $9.6 million in net proceeds.

In June 2006, the Company completed a private placement with Smart Hydrogen Inc. whereby the Company sold 395,000 shares of Class B Capital Stock, a class of preferred stock of the Company, which are convertible into 39,500,000 shares of common stock of the Company, and 11,240 shares of common stock of the Company to Smart Hydrogen for an aggregate net purchase price of approximately $214.4 million. The purchase price per share of the shares sold to Smart Hydrogen, on an as-converted into common stock basis, was $5.50. The Buyer also contemporaneously purchased 1,825,000 shares of common stock of the Company from DTE Energy Foundation.

Following the closing of these transactions, the Buyer owned approximately 35% of the Company s outstanding common stock on an if-converted basis.

In December 2008, Smart Hydrogen Inc. sold to OJSC (Third Generation Company of the Wholesale Electricity Market) (OGK-3) all 395,000 shares of the Company's Class B Capital Stock as well as 5,126,939 shares of the Company's common stock (representing an approximately 35% ownership stake in aggregate). This sale triggered the automatic conversion of the Company's Class B Capital Stock into 39,500,000 shares of common stock, and the termination of all the rights and obligations attached to the Class B Capital Stock. The rights and obligations attached to the Class B Capital Stock that terminated include, but are not limited to, the right to appoint directors, veto rights and voting support obligations under the Investor Rights Agreement dated as of June 29, 2006, as amended (the Investor Rights Agreement). OGK-3 has executed a joinder agreement to the Investor Rights Agreement and is prohibited from transferring its shares of the Company's Common Stock to a competitor of the Company. OGK-3 is also bound by the same standstill provisions that applied to Smart Hydrogen, as set forth in the Investor Rights Agreement. This transfer and conversion triggered a change of control pursuant to Section 17 of our 1999 Stock Option and Incentive Plan; and, therefore, each outstanding Stock Option Right automatically became fully exercisable and conditions and restrictions on each outstanding Restricted Stock Award, Deferred Stock Award and Performance Share Award that relates solely to the passage of time and continued employment were removed.

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Initial Capital Contributions

We were formed in June 1997 as a joint venture between Mechanical Technology Incorporated and Edison Development Corporation, an indirect wholly owned subsidiary of DTE Energy Company. At formation, Mechanical Technology Incorporated contributed assets related to its fuel cell program, including intellectual property, 22 employees, equipment and the right to receive government contracts for research and development of PEM fuel cell systems, if awarded. Edison Development Corporation contributed or committed to contribute $9.0 million in cash, expertise in distributed power generation and marketplace presence to distribute and sell stationary fuel cell systems.

In aggregate, Mechanical Technology Incorporated has made cash contributions of $27.0 million plus non-cash contributions of $14.2 million, while Edison Development Corporation has made aggregate cash contributions of $46.2 million, including $5.0 million in connection with the closing of a private placement of our common stock in July, 2001. Mechanical Technology Incorporated and Edison Development Corporation have not made any additional cash or non-cash contributions since October 1999 and July 2001, respectively.

GE Fuel Cell Systems

In March 2006, the Company, GE MicroGen, Inc. a wholly-owned subsidiary of General Electric Company, or GE, and GE restructured their service and equity relationships by terminating the joint venture, GEFCS, and the associated distributor and other agreements, and entering into a new development collaboration agreement. Under the new agreement, the Company and GE (through its Global Research unit) have agreed to collaborate on programs including but not limited to development of tools, materials and components that can be applied to various types of fuel cell products. The Company and GE mutually agreed to extend the terms of the new development collaboration agreement such that the Company is obligated to purchase $1 million of services from GE in connection with this collaboration prior to December 31, 2009. As of December 31, 2008 the obligation remaining under the contract was approximately $400,000. The development collaboration agreement is scheduled to terminate on the earlier of (i) December 31, 2014 or (ii) upon completion of a certain level of program activity.

Grant Agreements

Since our inception we have been awarded, or participated in, federal and state government contracts related to research, development, test and demonstration of our PEM fuel cell technology. These contracts are primarily cost reimbursement contracts associated with the development of our PEM fuel cell technology. We have recognized research and development contract revenue of approximately $88.7 million related to federal and state government contracts, and commercial contracts. We generally share in the cost of these programs, with cost-sharing percentages generally ranging from 22% and 78% of total project costs. We expect to continue certain research and development contract work that is directly related to our current product development efforts.

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Contractual Obligations

Contractual obligations as of December 31, 2008, under agreements with non-cancelable terms are as follows:

		Total		<1 Year		1-3 Years		3-5 Years
Operating lease obligations	$	3,908,079	$	1,717,725	$	2,190,354	$	-
Purchase obligations	$	744,500		524,500		220,000		-
Other obligations **(A)**, **(B)**, **(C)**	$	380,880		380,880		-		-
Total	$	5,033,459	$	2,623,105	$	2,410,354	$	-

(A) The Company has a contractual obligation to NYSERDA, a New York State Government agency, to pay royalties to NYSERDA based on 0.5% of net sales of our GenCore and GenSys products if product is manufactured in the state of New York. See Note 18 (Commitments and Contingencies) of the Consolidated Financial Statements for more detail.

(B) The Company has a contractual obligation to the National Research Council of Canada (NRC), a Canadian Government agency, through an Industrial Research Assistance Program (IRAP) agreement, to pay royalties to NRC based on 3.5% of gross revenues. See Note 10 (Repayable Government Assistance) of the Consolidated Financial Statements for more detail.

(C) The Company has a contractual obligation with General Electric (GE) through its Global Research unit. The Company and GE mutually agreed to extend the terms of the new development collaboration agreement such that the Company is obligated to purchase $1 million of services from GE in connection with this collaboration prior to December 31, 2009. The development collaboration agreement is scheduled to terminate on the earlier of (i) December 31, 2014 or (ii) upon the completion of a certain level of program activity. See Note 18 (Commitments and Contingencies) of the Consolidated Financial Statements for more detail.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We invest our excess cash in government, government backed and interest-bearing investment-grade securities that we generally hold for the duration of the term of the respective instrument. We do not utilize derivative financial instruments, derivative commodity instruments or other market risk sensitive instruments, positions or transactions in any material fashion. Accordingly, other than with respect to auction rate debt securities, we believe that, while the investment-grade securities we hold are subject to changes in the financial standing of the issuer of such securities, we are not subject to any material risks arising from changes in interest rates, foreign currency exchange rates, commodity prices, equity prices or other market changes that affect market risk sensitive instruments.

A portion of the Company s total financial performance was attributable to our operations in Canada. Our exposure to changes in foreign currency rates primarily arises from short-term inter-company transactions with our Canadian subsidiaries and from client receivables in different currencies. Foreign sales are mostly made by our Canadian subsidiaries in their respective countries and are typically denominated in Canadian dollars. Our foreign subsidiaries incur most of their expenses in their local currency as well, which helps minimize our risk of exchange rate fluctuations. Accordingly, the Company s financial results are affected by risks such as currency fluctuations, particularly between the U.S. dollar and the Canadian dollar. As exchange rates vary, the Company s results can be materially affected.

In addition, the Company may source inventory among its worldwide operations. This practice can give rise to foreign exchange risk resulting from the varying cost of inventory to the receiving location as well as from the revaluation of intercompany balances. The Company mitigates this risk through local sourcing efforts.

Item 8. Financial Statements and Supplementary Data

The Company s consolidated financial statements included in this report beginning at page F-1 are incorporated in this Item 8 by reference.

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure
None.

Item 9A. Controls and Procedures
(a) Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the Exchange Act). Based on this evaluation, our principal executive officer and our principal financial officer concluded that, as of the end of the period covered by this annual report, our disclosure controls and procedures were effective, in that they provide reasonable assurance that information required to be disclosed by us in the reports we file or submit, under the Exchange Act, is recorded, processed, summarized and reported within the time period specified in the Securities and Exchange Commission s rules and forms.

(b) Management s Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organization of the Treadway Commission. Based on our evaluation under the framework in *Internal Control Integrated Framework* , our management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2008.

(c) Attestation Report of the Registered Public Accounting Firm

The attestation report of the Company s independent registered public accounting firm regarding internal control over financial reporting is included on page F-3 of this Annual Report on Form 10-K and incorporated herein by reference.

(d) Changes in Internal Control Over Financial Reporting

There were no changes in the Company s internal control over financial reporting identified in connection with the evaluation of such internal control that occurred during the Company s last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company s internal control over financial reporting.

Item 9B. Other Information

Not applicable.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

(a) Directors

Incorporated herein by reference is the information appearing under the captions Information about our Directors and Compliance with Section 16(a) of the Securities Exchange Act of 1934 in the Company s definitive Proxy Statement for its 2009 Annual Meeting of Stockholders to be filed with the Security and Exchange Commission.

(b) Executive Officers

Incorporated herein by reference is the information appearing under the captions Executive Officers and Compliance with Section 16(a) of the Securities Exchange Act of 1934 in the Company s definitive Proxy Statement for its 2009 Annual Meeting of Stockholders to be filed with the Security and Exchange Commission.

(c) Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all officers, directors, employees and consultants of the Company. The Code of Business Conduct and Ethics is intended to comply with Item 406 of Regulation S-K of the Securities Exchange Act of 1934 and with applicable rules of The NASDAQ Stock Market, Inc. Our Code of Business Conduct and Ethics is posted on our Internet website under the Investor page. Our Internet website address is www.plugpower.com. To the extent required or permitted by the rules of the SEC and NASDAQ, we will disclose amendments and waivers relating to our Code of Business Conduct and Ethics in the same place as our website.

(d) Audit Committee

Incorporated herein by reference is the information appearing under the caption Audit Committee in the Company s definitive Proxy Statement for its 2009 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

Item 11. Executive Compensation

Incorporated herein by reference is the information appearing under the caption Executive Compensation in the Company s definitive Proxy Statement for its 2009 Annual Meeting of Stockholders to be filed with the Security and Exchange Commission.

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Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters
Incorporated herein by reference is the information appearing under the caption Principal and Management Stockholders in the Company s definitive Proxy Statement for its 2009 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

Equity Compensation Plan Information

The following table gives information about the shares of Common Stock that may be issued upon the exercise of options, restricted stock and warrants under the Plug Power, L.L.C. Second Amendment and Restatement of the Membership Option Plan (1997 Plan), the Company s 1999 Stock Option and Incentive Plan, as amended (1999 Stock Option Plan) and the Company s 1999 Employee Stock Purchase Plan, as of December 31, 2008.

Plan Category	Number of shares to be issued upon exercise of outstanding options, warrants and rights(a)		Weighted average exercise price of outstanding options, warrants and rights(b)	Number of shares remaining available for future issuance under equit compensation plans (excluding shares reflected in column(a
Equity compensation plans approved by security holders	6,119,804	(1)	$ 8.84	4,336,449
Equity compensation plans not approved by security holders(3)	571,429	(3)	0.01	
Total	6,691,233		$ 8.09	4,336,449

(1) Represents outstanding options issued under the 1997 Plan and 1999 Stock Option Plan.
(2) Includes 4,038,883 shares available for future issuance under the 1999 Stock Option Plan and 297,566 shares available for future issuance under the 1999 Employee Stock Purchase Plan. The 1999 Stock Option Plan incorporates an evergreen formula pursuant to which the aggregate number of shares reserved for issuance under the 1999 Stock Option Plan will increase on the first day of January and July each year. On each January 1 and July 1, the aggregate number of shares reserved for issuance under the 1999 Stock Option Plan increases by 16.45% of any net increase in the total number of outstanding shares since the preceding July 1 or January 1, as the case may be. In accordance with this formula, on January 1, 2009, the maximum number of shares remaining available for future issuance under the 1999 Stock Option Plan is 10,581,012.
(3)

Represents 571,429 warrants issued to General Hydrogen shareholders in connection with the acquisition of General Hydrogen.

Item 13. Certain Relationships and Related Transactions and Director Independence

Incorporated herein by reference is the information appearing under the caption Certain Relationships and Related Transactions in the Company s definitive Proxy Statement for its 2009 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

Item 14. Principal Accounting Fees and Services

Incorporated herein by reference is the information appearing under the caption Independent Auditors Fees in the Company s definitive Proxy Statement for its 2009 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

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PART IV

Item 15. Exhibits and Financial Statement Schedules

15(a)(1) Financial Statements

The financial statements and notes are listed in the Index to Consolidated Financial Statements on page F-1 of this Report.

15(a)(2) Financial Statement Schedules

Consolidated financial statement schedules not filed herein have been omitted as they are not applicable or the required information or equivalent information has been included in the consolidated financial statements or the notes thereto.

15(a)(3) Exhibits

Exhibits are as set forth in the List of Exhibits which immediately precedes the Index to Consolidated Financial Statements on page F-1 of this Report.

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SIGNATURES

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

	P LUG P OWER I NC .	
	By:	/s/ A NDREW M ARSH **Andrew Marsh,** **Chief Executive Officer**

Date: March 16, 2009

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.

Signature	Title	Date
/s/ A NDREW M ARSH **Andrew Marsh**	Chief Executive Officer and Director (Principal Executive Officer)	March 16, 2009
/s/ G ERALD A. A NDERSON **Gerald A. Anderson**	Chief Financial Officer	March 16, 2009
/s/ J EFFREY M. D RAZAN **Jeffrey M. Drazan**	Director	March 16, 2009
/s/ L ARRY G. G ARBERDING **Larry G. Garberding**	Director	March 16, 2009
/s/ M AUREEN O. H ELMER **Maureen O. Helmer**	Director	March 16, 2009
/s/ G EORGE C. M C N AMEE	Director	March 16, 2009

George C. McNamee

/s/ G ARY K. W ILLIS	Director	March 16, 2009

Gary K. Willis

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Certain exhibits indicated below are incorporated by reference to documents of Plug Power on file with the Commission. Exhibits nos. 10.1, 10.2, 10.3, 10.5, 10.7 and 10.12 through 10.21 represent the management contracts and compensation plans and arrangements required to be filed as exhibits to this Annual Report on Form 10-K.

Exhibit No. and Description	
3.1	Amended and Restated Certificate of Incorporation of Plug Power Inc.(9)
3.2	Amended and Restated By-laws of Plug Power Inc.(1)
3.3	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Plug Power.(9)
4.1	Specimen certificate for shares of common stock, $.01 par value, of Plug Power.(2)
10.1	Second Amendment and Restatement of the Membership Option Plan dated February 15, 1999 and First Amendment to Second Amendment and Restatement of the Membership Option Plan dated October 1, 1999.(3)
10.2	1999 Stock Option and Incentive Plan.(2)
10.3	Employee Stock Purchase Plan.(2)
10.4	Registration Rights Agreement to be entered into by the Registrant and the stockholders of the Registrant.(9)
10.5	Severance Agreement, dated as of July 12, 2007, by and between Plug Power Inc. and Gerald A. Anderson.(6)
10.6	Joint Development Agreement, dated as of June 2, 2000, between Plug Power Inc. and Engelhard Corporation.(9)
10.7	Executive Severance Agreement, dated as of July 9, 2007, by and between Plug Power Inc. and Gerald A. Anderson.(6)
10.8	Indemnification Agreement, dated as of July 9, 2007, by and between Plug Power Inc. and Gerald A. Anderson.(6)
10.9	Investor Rights Agreement, dated as of June 29, 2006, by and among Plug Power Inc., Smart Hydrogen Inc. and the other parties named therein.(1)

10.10	Registration Rights Agreement, dated as of June 29, 2006, by and between Plug Power Inc. and Smart Hydrogen Inc.(1)
10.11	Form of Indemnification Agreement entered into with each director.(1)
10.12	Form of Incentive Stock Option Agreement.(4)
10.13	Form of Non-Qualified Stock Option Agreement for Employees.(4)

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Exhibit No. and Description	
10.14	Form of Non-Qualified Stock Option Agreement for Independent Directors.(4)
10.15	Form of Restricted Stock Award Agreement.(4)
10.16	Amendment No. 1 to the 1999 Stock Option and Incentive Plan.(4)
10.17	Plug Power Executive Incentive Plan.(5)
10.18	Employment Agreement, dated as of April 7, 2008, by and between Andrew Marsh and Plug Power Inc.(7)
10.19	Form of Non-Qualified Stock Option Agreement for Employees.(7)
10.20	Executive Employment Agreement, dated as of May 5, 2008, by and between Gerard L. Conway, Jr. and Plug Power Inc.(8)
10.21	Executive Employment Agreement, dated as of May 5, 2008, by and between Mark A. Sperry and Plug Power Inc.(8)
23.1	Consent of KPMG LLP.(9)
31.1 and 31.2	Certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.(9)
32.1 and 32.2	Certifications pursuant to 18 U.S.C. Section 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(9)

(1) Incorporated by reference to the Company s current Report on Form 8-K dated June 29, 2006.
(2) Incorporated by reference to the Company s Registration Statement on Form S-1 (File Number 333-86089).
(3) Incorporated by reference to the Company s Registration Statement on Form S-1/A (File Number 333-86089).
(4) Incorporated by reference to the Company s Form 10-Q for the period ended June 30, 2006.
(5) Incorporated by reference to the Company s current Report on Form 8-K dated February 15, 2007.
(6) Incorporated by reference to the Company s current Report on Form 8-K dated July 9, 2007.
(7) Incorporated by reference to the Company s current Report on Form 8-K dated April 2, 2008.
(8) Incorporated by reference to the Company s Form 10-Q for the period ended June 30, 2008.
(9) Filed herewith.

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INDEX TO CONSOLIDATED FINANCIAL STATEMENTS