

AMERICAN SUPERCONDUCTOR CORP /DE/

Form 10-K

June 14, 2006

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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

**WASHINGTON, D.C. 20549**

**FORM 10-K**

**ANNUAL REPORT**

**PURSUANT TO SECTIONS 13 OR 15(d)**

**OF THE SECURITIES EXCHANGE ACT OF 1934**

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
**For the fiscal year ended March 31, 2006**

**OR**

.. **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
**For the Transition Period from \_\_\_\_\_ to \_\_\_\_\_**

**Commission file number 0-19672**

**American Superconductor Corporation**

**(Exact Name of Registrant as Specified in Its Charter)**

**Delaware**  
**(State or Other Jurisdiction)**

**of Incorporation or Organization)**

**Two Technology Drive**

**Westborough, Massachusetts**

**(Address of Principal Executive Offices)**

**04-2959321**  
**(IRS Employer**

**Identification Number)**

**01581**

**(Zip Code)**

Registrant's telephone number, including area code: (508) 836-4200

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

Securities registered pursuant to Section 12(g) of the Act: Common Stock, \$.01 par value

Indicate by checkmark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes  No

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

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

Indicate by check mark 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 the Form 10-K or any amendment to this Form 10-K.

Indicate by checkmark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of ( accelerated filer and large accelerated filer ), an accelerated filer, or a non-accelerated filer in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer  Non-accelerated filer

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

On September 30, 2005, the aggregate market value of voting and non-voting Common Stock held by nonaffiliates of the Registrant was \$277,415,438 based on the closing price of the Common Stock on the NASDAQ National Market on September 30, 2005.

Number of shares outstanding of the registrant's Common Stock, \$.01 par value, as of June 7, 2006 was 33,018,168.

**DOCUMENTS INCORPORATED BY REFERENCE**

**Document**

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**Form 10-K Part**

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Definitive Proxy Statement with respect to the Annual Meeting of Stockholders for the fiscal year ended March 31, 2006, to be filed with the Securities and Exchange Commission no later than June 28, 2006.

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Part III

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This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. For this purpose, any statements contained herein that relate to future events or conditions, including without limitation, the statements under Item 1. Business, Item 1A. Risk Factors and Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and located elsewhere herein regarding industry prospects and the Company's prospective results of operations or financial

position, may be deemed to be forward-looking statements. Without limiting the foregoing, the words believes, anticipates, plans, expects, and similar expressions are intended to identify forward-looking statements. Such forward-looking statements represent management's current expectations and are inherently uncertain. The important factors discussed below under the caption Risk Factors in Item 1A, among others, could cause actual results to differ materially from those indicated by forward-looking statements made herein and presented elsewhere by management from time to time. Any such forward-looking statements represent management's estimates as of the date of this Annual Report on Form 10-K. While the Company may elect to update such forward-looking statements at some point in the future, it disclaims any obligation to do so, even if subsequent events cause its views to change. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of this Annual Report on Form 10-K.

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**PART I**

**Item 1. *Business***

**Overview**

We are a leading electricity solutions company. We develop and manufacture products to dramatically improve the cost, efficiency and reliability of systems that generate, deliver and use electric power. Our products include high temperature superconductor (HTS) wire for electric power, transportation, medical and industrial processing applications; motors and generators based on our HTS wire for ship propulsion and industrial uses, as well as synchronous condensers for transmission and distribution grid reliability; and advanced power electronic systems that ensure the quality and reliability of electricity for residential, commercial and industrial end users.

Our HTS wire carries direct current (DC) without any loss of electrical power, resulting in high electrical efficiency. It also conducts more than 150 times the electrical current of copper wire of the same dimensions, which dramatically reduces the size and weight of electrical equipment and significantly increases the power throughput of power cables. Our current and planned products are sold or are planned to be sold to electric utilities and transmission and distribution grid operators, electrical equipment manufacturers, industrial power users and shipbuilders that utilize electric motors for ship propulsion systems. Our technology and products are backed by an intellectual property portfolio that, as of March 31, 2006, includes more than 370 patents and patent applications owned by us worldwide and more than 355 patents and patent applications licensed from others worldwide.

We have also developed a strong portfolio of patents related to second generation, or 2G, HTS wire manufacturing, with more than 85 worldwide patents and patent applications pending, and licenses to more than 50 worldwide patents and patent applications owned by others, as of March 31, 2006.

Our products, and those sold by others who incorporate our products, can:

increase the reliability, security and power transfer capacity of electricity transmission and distribution power grids;

improve the quality of electric power delivered to manufacturing plants;

meet the grid interconnection standards required by wind farms and other sources of renewable energy;

reduce the manufacturing and operating costs of primary electrical equipment, including motors and generators;

reduce the size and weight of power cables, motors, generators and other electric power equipment; and

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conserve energy resources used to produce electricity, such as oil, gas and coal, by more efficiently conducting and converting electricity into useful forms.

We believe there will be significant market demand for our products because of the following factors:

demand for electric power continues to grow on a global basis;

the power grids in the U.S. and in many developed nations face severe constraints in adequately and safely delivering the amounts of power demanded by electric power users;

power reliability and power quality are increasingly important as economies transition to computerized and digitized systems;

U.S. domestic policy is now addressing the need to upgrade the transmission and distribution power grid as part of an effective long-term national energy policy; and

environmental threats from global industrialization and population growth continue to influence nations to encourage environmentally friendly power technologies.

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We conduct our operations through three business units:

AMSC Wires, a developer and manufacturer of HTS wire;

SuperMachines, a designer and manufacturer of rotating machines based on our HTS wire, including electric motors, generators and synchronous condensers; and

Power Electronic Systems, a designer and manufacturer of power electronic converters and integrated power electronic systems that increase power grid reliability and throughput and ensure high-quality power for industrial manufacturing operations.

We file reports, proxy statements and other documents with the Securities and Exchange Commission. You may read and copy any document we file at the SEC Headquarters at Office of Investor Education and Assistance, 100 F Street, NE, Washington, D.C. 20549. You should call 1-800-SEC-0330 for more information on the public reference room. Our SEC filings are also available to you on the SEC's Internet site at <http://www.sec.gov>.

Our internet address is [www.amsuper.com](http://www.amsuper.com). We are not including the information contained in our website as part of, or incorporating it by reference into, this annual report on Form 10-K. We make available free of charge through our web site our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, as soon as reasonably practicable after we electronically file such materials with the Securities and Exchange Commission.

## **Superconductor Technology**

A superconductor is a perfect conductor of electricity. It carries DC with 100 percent efficiency because no energy is dissipated by resistive heating. DC in a superconducting loop can flow undiminished forever. Superconductors can also conduct alternating current (AC) with some slight loss of energy.

Superconductor materials lose all resistance to the flow of DC and nearly all resistance to the flow of AC when they are cooled below a critical temperature. The critical temperature is different for each superconductor material. Superconductor materials, including both HTS materials and low temperature superconductor (LTS) materials, need to be cooled to very low temperatures to act as superconductors. Wires made with HTS material typically operate at temperatures that are five to 20 times higher than the operating temperatures of LTS materials. The process of cooling LTS materials to their critical temperature is expensive and often difficult, which limits the commercial applications of LTS technology. Conversely, the lower cost of cooling HTS materials broadens the range of potential commercial superconductor applications.

A combination of three conditions must be met for a material to exhibit superconductor behavior:

The material must be cooled below its critical temperature ( $T_c$ );

The current passing through a cross-section of the material must be below a level known as the critical current density ( $J_c$ ); and



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The magnetic field to which the material is exposed must be below a value known as the critical magnetic field ( $H_c$ ).

Superconductor materials were initially discovered in 1911. Before 1986, no known superconductor had a critical temperature above 23 Kelvin. Zero Kelvin is the absolute zero of temperature and is the equivalent of minus 459 degrees Fahrenheit; 23 Kelvin is the equivalent of minus 418 degrees Fahrenheit.

In 1986, a breakthrough in superconductivity occurred when two scientists, Dr. K. Alex Muller and Dr. J. Georg Bednorz, at an IBM laboratory in Zurich, Switzerland, identified a ceramic oxide compound, an HTS material, which was shown to be superconductive at 36 Kelvin (minus 395 degrees Fahrenheit). This

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discovery earned them the Nobel Prize for Physics in 1987, which is one of six Nobel Prizes awarded to date for work on superconductivity. A series of related ceramic oxide compounds that have higher critical temperatures has been subsequently discovered. This family of ceramic superconductors has come to be known as HTS materials. Some of these materials are being actively used throughout the world and by us for practical wire applications. A variety of organic materials have also been discovered, in a class called fullerenes, with critical temperatures ranging between those for high temperature ceramic oxide superconductors and low temperature metallic superconductors. Because of the expense and complexity of synthesizing the fullerenes and also their limited performance in a magnetic field, these have generally not been actively considered for superconductor wire applications. A related group of organic materials called nanotubes, though not superconducting, show unusual conductive properties at room temperature and are being considered for wire applications; however, many fundamental problems remain in developing a practical wire from these materials. We monitor worldwide developments in this interesting but still very exploratory area.

In early 2001, it was discovered that a well-known and widely available material, magnesium diboride ( $MgB_2$ ), has a superconductor transition temperature at 40 Kelvin (minus 387 degrees Fahrenheit). The properties of  $MgB_2$  are consistent with those of LTS materials. Because of its potential low cost and ease of synthesis, work was initiated around the world to investigate the use of  $MgB_2$  in wire applications. We initiated a program to investigate the commercial viability of  $MgB_2$  and concluded that it would be very difficult for  $MgB_2$  wire to compete against wires based on HTS materials for power applications. We have stopped development activities on  $MgB_2$  but continue to monitor new developments and are poised to reestablish our program if the need arises.

## **Power Electronics Technology**

Advances in power electronics technology are enabling new, more reliable and efficient uses of electric devices and are providing a critical component fundamental to new integrated power solutions that improve the reliability and quality of power delivered to users. Today, our growing digital-based economy demands better power reliability and quality for higher performance through faster power conversion devices and active grid management. Power conversion and active grid management are enabled by power electronic devices, which convert generated or transmitted electric power to the appropriate form for a particular electrical application. Common examples of power electronic conversion include AC-DC converters used at the interface between AC power sources and a number of applications that use only DC power; DC-DC converters used to change the DC voltage of a source; and DC-AC converters, commonly called inverters, used to convert DC power to AC power. DC is typically produced by batteries and fuel cells, while AC is typically produced by electric generators and used in homes and businesses.

Power electronic converters incorporate power semiconductor devices that switch, control and move large amounts of power faster and with far less disruption than the electromechanical switches that have historically been used. These power converters can be used in a variety of applications from motor drives, power supplies, voltage regulators and wind turbines to fuel cells, microturbines and photovoltaics.

Ongoing advances in power electronics technology have spawned new, more reliable and efficient power semiconductor switching devices. We employ devices such as insulated gate bipolar transistors (IGBT) operating in the 300 to 2,000 volt range and at switching frequencies up to 20,000 hertz. We incorporate these into our proprietary, state-of-the-art power electronic converters, which together enable lower cost and more effective, integrated solutions for power reliability and quality. Rather than using discrete packaging, we integrate the IGBTs onto printed circuit boards made of insulating and conductive materials, which increases reliability and reduces manufacturing cost. These circuit boards form a critical building block in our more powerful and compact power electronic converters. Other key attributes of our power converters are their inherent programmability, flexibility and scalability. Embedded controllers allow end users to customize power converters to meet precise application requirements and optimize the performance characteristics of the device.

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### **Market Overview**

#### ***Power Demand and Transmission Capacity***

One of our principal target markets, the electric power sector, is experiencing a pattern of sustained, long-term growth that is expected to continue into the future. The Electric Power Research Institute (EPRI) has estimated that electricity as a percentage of total energy use in the U.S. was 25 percent in 1970, has recently reached 40 percent and will increase to 50 percent by 2020. For the past several years, rising power demand has been driven in large part by growth in the use of computers, the Internet, telecommunications and other consumer-based electronic products. More recently, the rapid rise in world oil prices has led to mounting interest in alternatives to oil-based transportation fuels, including plug-in hybrid electric vehicles that could be recharged from the electric power grid. Projected growth rates for electric power consumption by these newer technologies are far higher than for traditional uses of power, which have historically grown in proportion to the gross domestic product of the U.S. We believe that the continued growth in aggregate power consumption, as well as the corresponding demand for more reliable and higher quality power to support digital applications, will create sustained demand for many of our products.

We believe another key factor affecting the market for our products and technologies is the widely recognized need to upgrade the U.S. transmission infrastructure. From the late 1980s until the early part of this decade, transmission investment experienced a prolonged depression caused by uncertainties with respect to the ownership of and return on power grid assets caused by potential changes in power grid regulations and policies. This period of underinvestment resulted, we believe, in significant pent-up demand for power grid solutions. Over the past several years, federal authorities have issued a series of reports and studies that support the need for innovation and renewed investment in the transmission grid. The Northeast Blackout of August 14, 2003, the largest such event in U.S. history, affecting over 50 million people, was pivotal in prompting broad public recognition of the need for concerted action to modernize the nation's power grid and regulatory structure.

After several years of debate, in August 2005, President Bush signed the Energy Policy Act of 2005 (EPAAct 2005). EPAAct 2005 contains numerous provisions related to power transmission that have already begun to encourage or require higher levels of grid infrastructure spending and technology modernization. For example, the law establishes mandatory reliability standards that are subject to enforcement by the Federal Regulatory Commission (FERC); in response, the North American Electric Reliability Council (NERC) has issued new rules and formally submitted its application to become the nation's federally-sanctioned primary Electric Reliability Organization. EPAAct 2005 also requires FERC to revise its rules on transmission cost recovery to encourage greater levels of investment and use of new technologies, and the Commission has already initiated this rulemaking process. The new law also extends the Production Tax Credit for renewable energy projects including wind and solar farms, which may make use of the Company's products to connect these sources of electricity with the transmission grid. We believe that these and other provisions in EPAAct 2005 will, over the next several years, be favorable to our efforts to commercialize our products and technologies.

#### ***Power Reliability and Power Quality***

The reliability of the power transmission network and the quality of power delivered to customers are becoming increasingly important in today's economy.

Power grid congestion caused by growing electrical demands on capacity-constrained power lines and cables, in addition to voltage instability and low voltage in the power grid, are causing significant reliability problems for the nation's growing digital-based economy.

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Downtime due to power-related problems is becoming an increasing concern to many industries as the equipment used to manufacture products utilizes more and more power-sensitive digital components. Protection against power quality problems, such as voltage sags lasting two seconds or less, can provide significant economic value to large industrial users of power. Such momentary sags cause more than 90 percent of all plant

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shutdowns, which can last from hours to days and be very costly. In a July 2003 report issued by the Office of Electric Transmission and Distribution (OETD) and entitled *Grid 2030 A National Vision for Electricity's Second 100 Years*, OETD cited industry sources indicating that power outages and power quality disturbances in the U.S. result in economic losses of \$25-\$180 billion annually. The report also states that these losses could significantly increase if future outages or disturbances increase in frequency or duration.

**Power Reliability.** Power reliability refers to the ability to deliver power where and when it is needed. Operators of transmission and distribution grids quantify reliability as the fraction of time the power grid is up and running, after subtracting time needed for planned maintenance. Power grid operators are increasingly confronting reliability issues arising from the capacity limitations of transmission and distribution lines (overhead) and cables (underground). Because lines and cables are made with either copper or aluminum wires, they heat up due to the electrical resistance of these metals. Pushing too much power through a line or cable will heat it up to its thermal limit. At that point, more power flow through the line or cable will cause it to fail. Thus, as demand for power increases in the digital age, it is necessary to upgrade existing transmission and distribution corridors with more or higher capacity lines or cables.

Today, most transmission and distribution lines and cables are run at only 40 to 60 percent of their thermal limits. This is because individual lines and cables reach their voltage stability limit well below their thermal limit. Driving more power through a power grid when some of its lines and cables are operating above their voltage stability limit at peak demand times causes either low voltage in the power grid (a brownout) or risk of a sudden, uncontrollable voltage collapse (a blackout). The solution to power reliability problems lies in mitigating dynamic voltage stability problems and in augmenting transmission and distribution grid capacity.

The traditional way to increase power grid capacity and voltage stability is to install more overhead power lines. This allows for redundancy of power flow pathways and allows power grid operators to safely run systems closer to the thermal limits of the weakest links in the power grid. However, as a result of declining investment in the power grids in the U.S. during the last several decades, as well as rising public resistance to new overhead lines due to environmental, aesthetic and health concerns, which can result in permitting processes of five to 10 years or more, few new power lines are being built.

At the local distribution level, the theoretical solution to increasing electricity delivery capacity is to increase the number of copper or aluminum distribution lines and underground cables. However, this approach is not generally practical in large metropolitan areas for two important reasons: (i) many existing underground conduits carrying power distribution cables are already filled to their physical capacity and cannot accommodate any additional cables; and (ii) adding new conduits requires expanding or securing new rights of way and digging up streets to lay new conduit pipe. These tasks are costly and impose significant disruptions.

We believe our HTS wire will enable a new class of high-capacity, environmentally benign and easy-to-install transmission and distribution cables that address power grid capacity issues by increasing the thermal limit of existing or new rights of way. We expect that our HTS wire will be utilized in an increasing number of new HTS power cable demonstrations over the next several years. Based on our market analyses, we believe that the total worldwide addressable market opportunity for our HTS power cables is \$3 billion annually.

We also sell integrated power electronic systems and currently have 52 integrated power electronic systems at 29 customer locations in the U.S., Canada, Europe and Australia that provide voltage stabilization in transmission and distribution power grids, and clean power for industrial operations. These transmission reliability and industrial power quality systems enable power grids to operate closer to their thermal limits, which in many cases means the existing power grid can carry more power, and increase the productivity and reduce the costs of manufacturing operations that are sensitive to the quality of electric power.

Our HTS dynamic synchronous condensers, or SuperVAR<sup>®</sup> machines, are AC rotating machines that generate or absorb reactive power to support and stabilize power grid voltage. These machines are designed to increase both the reliability of power grids and the power flow through existing transmission lines. Our first

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prototype operated successfully in a transmission grid operated by the Tennessee Valley Authority (TVA), one of the largest public utilities in the U.S. TVA has ordered the first two commercial HTS dynamic synchronous condensers. We expect to ship the first commercial SuperVAR synchronous condenser to them by the end of December 2006 and the second by the end of March 2007.

*Power Quality.* Distinct from the issue of power reliability is the problem of power quality. Power quality anomalies (most commonly voltage sags, which are momentary drops in the voltage in power grids) are an expected part of normal power grid operations, such as re-closure operations used to clear electrical faults in power grids.

The electrical faults may be caused by a variety of factors, including lightning strikes, animals or tree limbs that come into contact with power lines and even what the industry refers to as car / pole interactions. To a residential customer, a momentary power sag may be manifest as nothing more than a briefly flickering kitchen light. To a continuous process manufacturer, that same power quality problem may cause a costly interruption in microprocessor-controlled manufacturing lines. Because momentary sags are part of the normal operation of the power grid, they must be solved at the customer's site, which we achieve with our power electronics-based industrial power quality solutions.

We believe we are well positioned to participate in the expected increases in investment in power grid reliability solutions and in industrial power quality solutions over the next decade and beyond. We anticipate that our participation in this growing opportunity will be through sales of our existing power electronics-based solutions and in the future, through sales of our HTS dynamic synchronous condensers and our HTS wires for high-capacity power cables. Future transmission applications could also include fault current limiters and transformers.

### ***Power Electronic Converters***

Driven in part by the trend toward a global digital economy, the demand for switching power into useful forms is increasing. This, in conjunction with increasingly economical and efficient power converters, is driving the market for power conversion applications. Industry experts estimate that more than 20 percent of all power generated in the U.S. passes through power electronic converters at power levels exceeding 60 kilowatts (kW) and that this amount will increase with the introduction of new applications, including distributed and dispersed generation of power.

Electrical devices are becoming more intelligent as microprocessors and embedded controllers add new functionality to power converters. Key trends in power electronic converters designed for use in power infrastructure applications include greater modularity and standardization, programmability and the demand for smaller units with higher power density, which is the amount of power handled per unit volume of the converter device. We are focusing our power converter product development activities on power levels of 60 to 1,000 kW because we believe this is the market segment in which our power conversion technology offers the greatest value to customers.

Based on our market analyses, we believe that the addressable market for our power converter product line at power levels greater than 60 kW exceeds \$700 million per year. The addressable markets include motor drives, uninterruptible power supplies and other power quality systems, wind turbines, electric vehicles, power grid reliability solutions and distributed and dispersed generation devices, such as fuel cells and diesel generators.

### ***Rotating Machines: HTS Motors, Generators and Synchronous Condensers***

We have developed large-scale, HTS rotating AC synchronous machines that can be utilized as electrical motors, generators or dynamic synchronous condensers. To date, we have demonstrated several industrial and marine propulsion motors and a prototype dynamic synchronous condenser based on our HTS rotating AC synchronous machine technology. We plan to develop and commercialize HTS motors, generators and synchronous condensers.



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The market for large electric motors and generators is well developed, with strong competitors and intense price pressure. We estimate that the annual worldwide market for industrial motors, which we define as machines with ratings of 1,000 horsepower (hp) or higher, is approximately \$1 billion and is expanding at a compound annual growth rate (CAGR) of 2 to 4 percent. We estimate that the annual worldwide market for utility-scale electrical generators, which we define as generators with power ratings over 100 mega-volt-amperes (MVA), is approximately \$1.6 billion per year; and the market for industrial generators (typically 20 to 100 MVA) is approximately \$0.4 billion. We estimate that the worldwide market for utility and industrial generators is growing at a CAGR of approximately 2 to 4 percent.

During the last 15 years, the commercial cruise ship industry has made a transition to electric propulsion systems in which electric motors are used to directly drive the ship's propeller. An electric generator powered by a gas turbine, or other prime mover, provides the electricity to run the motor. The first ship type to convert to a modern electric propulsion system was the cruise ship, with the conversion from steam to electric propulsion of the Queen Elizabeth 2 in 1987. Today, virtually all commercial cruise ships are being built with electric propulsion systems. Similarly, many other types of commercial vessels, including product tankers, Ro-Ro (Roll-on Roll-off) and Ro-Pax (Roll-on Roll-off Passenger), liquefied natural gas carriers, cable layers, research ships and supply craft have been redesigned to incorporate the benefits electric propulsion systems provide over the older mechanical propulsion. The benefits HTS motors and generators provide to the marine propulsion market translate into reduced fuel costs, better ship handling capabilities, increased cargo and passenger cabin space, and improved naval ship operational performance.

Naval ship designs around the world are beginning to incorporate electric propulsion as well. In January 2000, the U.S. Navy declared it would transition to electric propulsion systems. It is now pursuing electric propulsion options for its future ship classes, including destroyers and cruisers.

We estimate that the annual market for electric motors and generators for ship propulsion systems is approximately \$450 million. Industry experts forecast that this market will grow at a CAGR of up to 20 percent over the next 10 years due to the accelerating transition to electric drives, which is already well underway today.

HTS rotating machines, when operated as dynamic synchronous condensers in power grid substations, are capable of generating or absorbing reactive power, which is measured in VARs (volt-amp reactive). In addition to continuous VAR support, a SuperVAR machine can help stabilize power grids by providing a fast, reliable, low-cost response to transient and disruptive events. This is accomplished through the HTS machine's unique ability to provide multiples of its rated capacity (overload) in response to transient events. SuperVAR machines also produce VARs on a continuous basis to 100 percent of their full rating (both leading and lagging) to increase grid transmission capacity.

Based on our own market analyses and those of TVA, we expect the need for VARs in support of both steady-state and transient power grid operation to continue to rise as the demand for power increases. It is currently estimated that approximately 10,000 mega-VAR (MVAR) of additional support are needed today in the U.S. market, which translates into an annual addressable market of approximately \$200-\$250 million, which we believe will grow at a rate of 4 percent per year. The international market is expected to grow at more than double this rate. We believe HTS dynamic synchronous condensers along with our power electronics solutions such as Dynamic VAR (D-VAR®) systems can supply a significant fraction of this demand.

Conventional, large electric rotating machine production is labor intensive, requires a large fixed asset investment and does not lend itself to mass production techniques. As a result, many manufacturers of large motors and generators are seeking opportunities to reduce manufacturing and investment costs to improve profitability. We believe size and weight reductions in large electric motors, generators and SuperVAR machines resulting from the use of HTS technology will enable significant reductions in manufacturing costs. During the last two years, we have shifted our focus in the development of electric rotating machines to ship propulsion and dynamic synchronous condenser applications. We believe we are well positioned to be a leader in these rapidly growing markets.



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### **Our Businesses**

We are organized into three business units: AMSC Wires, SuperMachines and Power Electronic Systems. Although these three business units are run independently, we leverage common customer and technology opportunities across all of the business units. Each of our business units is engaged in the manufacture and sale of commercial or prototype products and in the development of technology and new products. Our Power Electronic Systems business unit has been selling commercial products since 1999. Our AMSC Wires business unit sells commercial first generation (1G) HTS wire and is developing and scaling up the manufacturing of second generation (2G) HTS wire. Our SuperMachines business unit is developing, assembling and testing prototype motors and synchronous condensers, and is now manufacturing and selling commercial grid reliability products known as SuperVAR dynamic synchronous condensers.

A customer set common to all of these business units is power grid operators, and thus, much of our sales and marketing efforts are directed to this customer category. A significant part of our sales and marketing efforts is focused on the U.S.; however, we are currently marketing and selling our products, technologies and solutions around the world. Our channels to market include direct sales and distributors such as Kiswire Ltd. in Korea and Suzuki Shokan Co., Ltd. in Japan. In addition, we utilize Northrop Grumman Marine Systems, a division of Northrop Grumman Electronic Systems, for the sale of certain HTS products to the U.S. military through an agreement signed in October 2004.

To facilitate our traditional sales and marketing efforts, we have created the Advanced Grid Solutions business development team, comprised of seasoned individuals who have worked in all aspects of power generation, transmission, government regulation and policies, cryogenic systems and cable technology. Also participating in the business development team are five transmission planners with over 70 years of transmission planning experience and a broad depth of knowledge of the design and operation of transmission and distribution grids. These transmission planning experts use sophisticated software programs to perform power flow and stability analyses on power grids to help determine the best solutions to increase reliability and capacity. The Advanced Grid Solutions business development team is currently working with electric utilities, wind farm operators and industrial users of power to create solutions that utilize our current or planned products.

### ***AMSC Wires Business***

The AMSC Wires business unit is responsible for the design, development and manufacture of HTS wires. It sells wire to electric utilities and original equipment manufacturers (OEMs, including AMSC's SuperMachines business unit) that incorporate HTS wire into value-added products.

We have two wire products available for sale. Our multi-filamentary composite HTS wire, which is typically called first generation or 1G HTS wire, can carry more than 150 times the power of copper wires of the same dimensions. The superconductor compound we utilize in our 1G HTS wire is  $\text{Bi}_{1.8}\text{Pb}_{0.3}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_{10}$ , commonly referred to as BSCCO. Currently, the AMSC Wires business unit is selling 1G HTS wire primarily to electric utilities and OEMs that incorporate the wire into prototype power cables, motors, generators and electromagnet applications for sale to the utility, transportation, ship building and industrial processing markets. Our SuperMachines business unit is an AMSC Wires customer. We also sell wire to customers that are in early stages of research and development. These customers use the wire in products such as power transformers, fault current limiters and electromagnet applications in the medical, materials processing and transportation industries, as well as other fields. While we have recently indefinitely suspended production of 1G HTS wire, we have a substantial inventory available for sale during the period we are transitioning and scaling up the production of our second generation or 2G HTS wire.

We have successfully developed a 2G HTS wire that is expected to have comparable or better electrical and mechanical performance than 1G HTS wire, and that we expect to manufacture at a significantly lower cost than our current 1G HTS wire when production volumes exceed

approximately one million meters per year. The superconductor compound we utilize in our 2G HTS wire is  $\text{YBa}_2\text{Cu}_3\text{O}_7$ , commonly referred to as YBCO. We

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have invested more than \$60 million over a period of 11 years to develop our 2G HTS wire technology. Based on significant advances in the development of our manufacturing processes for 2G HTS wire and the electrical performance of our 2G HTS wire, we made a business decision to complete the transition from 1G HTS wire to manufacturing 2G HTS wire. Thus 2G HTS wire has become our main manufactured HTS wire product, although the production level of this wire will remain limited until the end of calendar year 2007, when we expect our full manufacturing pilot line to be complete. However, we can make no assurances that we will be able to scale up 2G HTS wire to a full pilot manufacturing capability within this timeframe, or, if we do, that our 2G HTS wire product will be successful in the marketplace. We expect to meet near-term market needs for HTS wire from more than 400,000 meters of 1G HTS wire in inventory.

The graphic below shows the architectures of 1G and 2G HTS wire. Both wires have the same external form and dimensions, and 2G is expected to have similar or better electrical and mechanical performance; so 2G HTS wire can easily replace 1G HTS wire in applications that have already adopted 1G HTS wire. However, the two generations of HTS wire differ in the superconductor materials of which they are comprised, their internal architecture, how they are manufactured, and, in some instances, their end-use applications.

*AMSC Wire Production Techniques.* We produced our commercial 1G HTS wire with deformation processing, which is analogous to the techniques used in the existing metal wire industry. In this approach, a silver alloy tube is packed with an oxide precursor powder and sealed. The tube is then deformed into a wire shape by a variety of deformation processing techniques such as wire-drawing and rolling. Finally, the wire is heat-treated to transform the precursor powder inside the wire into a high temperature superconductor. The resulting composite structure consists of many fine superconductor filaments embedded in a silver matrix. The filaments of HTS material, which are typically one-sixth the thickness of a human hair, extend through the entire length of the wire.

In December 2002, we produced our first saleable 1G HTS wire from our state-of-the-art 355,000-square-foot HTS wire manufacturing facility located in Devens, Massachusetts. Over the last several fiscal years, we have shipped approximately 1 million meters of 1G HTS wire from this facility. However, because of the progress we have made in scaling up manufacturing of 2G HTS wire, and because of the ultimate cost and performance advantages of 2G HTS wire, we decided to suspend 1G HTS wire manufacturing and focus our resources on the 2G HTS wire development and manufacturing scale-up.

We believe that approximately 25% of the equipment that we have utilized in our 1G HTS wire manufacturing process will be applicable to our 2G HTS wire manufacturing process. We recorded an impairment charge in March 2006 relating to the remaining 1G HTS manufacturing equipment.

We believe that our 1G HTS wire manufacturing facility has provided us with a competitive advantage as the market for HTS wire continues to grow and as the industry transitions from 1G to 2G HTS wire. Customers

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from 20 countries around the world are currently utilizing our 1G HTS wire in applications such as power cables, motors, generators and superconductor-based, magnetically levitated ( maglev ) trains. Working with these customers for our 1G HTS wire has provided us with valuable insights regarding the specifications for HTS wire required in many different applications, and has allowed us to develop strong customer relationships. We are employing these insights in the design, development and manufacturing of our proprietary 2G HTS wire, which we believe will benefit us relative to companies that are developing 2G HTS wire products but do not have a 1G HTS wire product.

The price-performance ratio for HTS wire is obtained by dividing the selling price-per-meter (\$/m) by the amount of electrical current measured in kilo-Amperes (kA) the wire can carry. The current selling price of 1G HTS wire varies according to customer specifications. For many customers, the price is typically \$18 per meter. The corresponding price-performance ratio is \$120/kAm using 150 Amperes (0.150 kA) as the average electrical performance of our 1G HTS wire available in our inventory. We believe the price-performance ratio of HTS wire needs to be in the range of \$25/kAm to \$80/kAm to be commercially viable and that the size of the market addressed by HTS wire will continue to increase significantly as the price-performance ratio approaches \$25/kAm.

Our continuing emphasis on decreasing the cost of manufacturing HTS wire is now focused on 2G HTS wire because we believe the 2G HTS wire manufacturing processes we have chosen to utilize will yield reductions in manufacturing costs that will lead ultimately to an improvement in the price-performance ratio of 2G HTS wire by a factor of two to five times relative to 1G HTS wire.

The manufacturing process for 2G wire is significantly different from the process used to make 1G HTS wire. 2G HTS wire is produced by coating multiple layers of materials on a metallic base, or substrate, as shown in the following figure. Each layer or coating utilized in the 2G HTS wire architecture must be produced with great precision in order to achieve the highest electrical performance in the YBCO superconductor layer within the wire.

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The amount of electrical current that can be carried by a superconductor wire typically decreases as the temperature of the wire in an application increases. The superconducting current drops to zero when the temperature is raised above the critical temperature,  $T_c$ . The superconducting current also decreases as the magnetic field to which the wire is exposed in an application increases becoming zero at a critical magnetic field.

HTS wires utilized in applications such as power transmission cables are exposed to relatively low magnetic fields. We believe the short lengths of 2G HTS wire we have developed already have the electrical performance levels required for use in power transmission cables. We believe our main challenge for this application is scaling up our 2G HTS wire manufacturing process to produce wires as long as 1,000 meters on a commercial scale at commercially attractive costs.

HTS wires utilized in the form of electromagnetic coils, in applications such as electric motors or generators, maglev train systems and magnetic resonance imaging medical systems, are exposed to substantial magnetic fields created by the passage of current through the wire. In such applications, methods for enhancing the electrical performance of the HTS wires in the presence of strong magnetic fields need to be developed. This can be achieved by pinning, or immobilizing the magnetic vortices, or magnetic flux lines, within the superconductor wires as shown in the following graphic.

We believe we have developed a practical, low cost methodology for increasing the electric current in our 2G HTS wires in high magnetic fields. Our approach involves the careful introduction of a variety of defects into the superconductor, including a dispersion of tiny foreign particles or nanodots. Each type of defect has a different effect on the wire's electrical performance, with the result being improved current carrying abilities under a range of temperature and magnetic field conditions. An yttrium oxide ( $Y_2O_3$ ) nanodot approximately 100 atoms across is shown in the following figure.

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By careful selection of the manufacturing technique for the production of each of the layers in a 2G HTS wire, it is possible to produce a 2G HTS wire that has very high electrical performance while minimizing the costs associated with the production of each layer. We have over a period of 11 years investigated many different techniques for manufacturing each of the layers in a 2G HTS wire. We have discovered and demonstrated a combination of manufacturing steps that yields 2G HTS wire with very high electrical performance. The manufacturing steps that we currently utilize to manufacture 2G HTS wire are illustrated in the following figure.

*Ten individual steps are utilized in our reel-to-reel manufacturing process for 2G HTS wire*

We believe the manufacturing steps that we currently utilize in the manufacture of 2G HTS wire will produce 2G HTS wire at substantially lower costs than the manufacturing techniques being pursued by competitors that are developing 2G HTS wire. We believe the performance and manufacturing costs inherent in our 2G HTS wire manufacturing process will give us a competitive edge in the commercial market for HTS wires. We have also developed a strong portfolio of patents related to our 2G HTS wire fabrication methodology, with more than 85 worldwide patents and patent applications pending, and licenses to more than 50 worldwide patents and patent applications owned by others, as of March 31, 2006. However, we can make no assurances that we will be successful in fully scaling up our proprietary 2G HTS wire manufacturing process.

In August 2005, we completed the conversion of our 2G HTS wire development operation into a pre-pilot production line for 2G HTS wire. The pre-pilot line comprises both upgraded development equipment and production equipment. As of May 2006, most of the upgraded development and production equipment has been transferred from our Westborough facility to our Devens manufacturing facility.

In May 2006, we announced that we had completed the transition of manufacturing operations to 2G HTS wire. As a result, all 1G wire production was indefinitely suspended with near-term market needs for HTS wire to be met from more than 400,000 meters of 1G HTS wire in inventory. We now are in the process of converting our 2G HTS wire pre-pilot production line into a pilot production line at our Devens manufacturing facility.

The pre-pilot line has the capability to produce 4-centimeter-wide strips of 2G material as shown below. The migration to 4-centimeter (cm) technology is important because it represents an opportunity for a significant reduction in manufacturing costs. In our 2G HTS wire manufacturing process, we slit the 4-centimeter-wide strips to the industry standard 0.4-centimeter-wide wires, which produces multiple wires from one production run, thereby reducing overall manufacturing costs for a given quantity of wire produced.



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Such a slit strip is shown in the figure below.

Finally we laminate the 0.4 centimeter-wide wires typically with very thin strips of either copper or stainless steel on either side. This additional material is called a stabilizer since it improves electrical, thermal and mechanical stability of the wire. This yields an architecture which we call 344 superconductor.

We are now manufacturing 2G HTS wire and by March 31, 2006, we had shipped 2,700 meters to 19 customers in 8 countries. We plan to manufacture and ship to customers an additional 10,000 meters of 2G HTS wire from our pre-pilot line by March 31, 2007. The demand for our limited supply of 2G HTS wire is very strong.

Given this strong demand, we have started to convert the pre-pilot line into a full pilot manufacturing operation. This pilot line will consist entirely of production equipment. Most of the equipment has already been ordered. Because our proprietary 2G HTS wire manufacturing technique is modular, we expect to be able to expand the pilot line to full commercial production, at a rate dictated by market demand, by commissioning additional production modules. The full pilot line and the commercial manufacturing operation will be located in our Devens facility.

The equipment cost for the pilot line, which we expect will have a gross production capacity of approximately 720,000 meters per year in December 2007, is expected to be \$12 million to \$14 million. The additional capital equipment needed for full commercial production is expected to cost approximately \$25 million to \$30 million, and should result in a commercial manufacturing operation with a gross capacity of approximately 8 million meters of wire per year. Our current plan is to have a commercial manufacturing operation that can produce over 2 million meter per year in place by approximately December 2009. We believe we can accelerate this timeline if the market demand for our 2G HTS wire accelerates.

*Key Markets for HTS Wires (Power Cables).* We believe that an important application for our HTS wire is high-capacity AC and DC power cables. Because of the high power capacity of HTS wire, HTS power cables have the potential to carry up to 10 times more power, depending on the design and operating characteristics of

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the cable, than copper-wire cables of the same dimensions. The performance levels and mechanical properties of our HTS wire are sufficient today to meet the technical requirements for cables that can alleviate congestion in power transmission systems.

### *Key components of a co-axial, cold dielectric superconductor power cable.*

There are several designs for HTS power cables that are being developed and tested by a number of cable manufacturers around the world. In all cases, the cryogenic coolant for the HTS wires in these cables is liquid nitrogen. Nitrogen, which comprises approximately 79 percent of the air we breathe, is an environmentally friendly, nonflammable material. When cooled by standard industrial refrigeration techniques, nitrogen gas turns into a relatively inexpensive liquid, which is used in many applications, ranging from steel making to crushing of spices to cryogenic freezing of biological materials on farms.

HTS power cables must be thermally insulated from their surroundings to minimize the refrigeration expense associated with keeping the nitrogen in its liquid state, which, in turn, keeps the temperature of the HTS wire in the cable below its critical temperature. The cryogenic insulation, typically called a cryostat, is made in a variety of forms depending on the cable architecture. Cryostats of the type needed for HTS power cables have been manufactured for decades by companies such as Nexans and Vacuum Barrier. The kind of cryogenic refrigeration equipment needed for HTS power cables is typically made by companies such as Air Liquide, The BOC Group, Air Products and Chemicals, and Praxair. Further developments to improve the costs of both cryogenic refrigeration and cryostats are necessary to catalyze broad market adoption of HTS cables.

HTS cables can provide a variety of advantages over conventional copper cables. Most important are the increased power density and very low impedance (VLI) characteristics of several HTS cable designs. These product features provide end user benefits in the following areas:

*Infrastructure Siting and Permitting.* Due largely to environmental and property value concerns, acquiring permits for overhead transmission lines has become an increasingly difficult process that can take over a decade to conclude without a guarantee of success. Conventional underground transmission cables that utilize copper or aluminum wires can be applied in some applications, but technical and environmental considerations limit widespread use. Co-axial HTS underground cables alleviate these concerns. With such HTS cables, fewer cables are needed to transmit the same amount of power, they have very low impedance, soil heating concerns are eliminated, and no stray electromagnetic fields (EMF) are produced.

*Relieving Network Congestion.* Co-axial HTS cables have VLI characteristics. Since electricity flows along the path of least impedance, these HTS cables can be used to change the flow dynamics of a transmission network. When properly placed into the transmission grid, HTS cables can be used to draw power flow away from overtaxed conventional cables or overhead lines and expand the overall system capacity with minimal new infrastructure or disruption.

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*Controlling Power Flow.* VLI HTS cables have another significant benefit. Because they have very low impedance, AC power flow through them can be controlled with conventional series reactors or phase shifters. The lack of continuous power flow control in the AC grid of today has emerged as an obstacle to efforts to restructure and deregulate the electric power industry, and experts now recognize that improved power flow control is necessary to enable these reforms to succeed. Historically, power flow has been controlled by converting AC power to DC power. This requires the use of inverters and rectifiers that are much more expensive than series reactors and phase shifters. Even if DC power is chosen, HTS cables may be the best choice. DC HTS circuits double the ampacity of similar sized AC HTS circuits and can provide up to 10 times the amperage of similar-sized conventional DC cables. In larger DC power applications the economics of HTS cables are superior to conventional DC cables.

*Reduced Construction Costs.* For many years, urban retrofit projects have been recognized as an ideal application for HTS cables. In many urban areas, the demand for power has outgrown the existing infrastructure. Solving this problem with conventional technology incurs the major disruption and large expense associated with digging up streets to install new conduit systems. Because HTS cables transmit significantly more power than conventional cables and are of the same approximate dimensions, in many cases it is possible to replace existing cables in existing conduits with HTS cables. This can more than triple the available power without trenching or performing other disruptive and costly construction activities. Even when trenching is needed to install cables in new transmission corridors, the disruption and expense is much less since fewer HTS cables are needed and multiple HTS cables can be put in one trench without creating heating problems.

*Voltage Reduction.* The high amperage characteristics of HTS cables allow significant reductions in voltage without a reduction in total power transferred. This can result in significant savings in support infrastructure such as substations, terminations, splices, etc. In addition, the ability to transmit large amounts of power at lower voltages can often eliminate the need for locating substations in sensitive or expensive sites. Also, the permitting cycle for lower voltage additions to the transmission system have greater predictability, quicker approvals and a much greater chance of being approved.

*Lower Power Losses.* HTS wire transmits DC power with zero resistive losses. This feature makes DC HTS circuits nearly perfect conductors. On a net loss basis (including energy consumed for refrigeration) DC HTS circuits and most AC HTS circuits consume less energy than conventional circuits.

*More Secure Power Networks.* The security of power networks is becoming a growing concern, and power grid operators have a need for new technology solutions that will enable their networks to become self-protecting. Self-protecting networks adjust rapidly and automatically to disruptions in power network equipment caused by weather damage, willful destruction or other reasons. We believe that VLI superconductor cables, because of their capacity, controllability and impedance characteristics, can play a significant role in conjunction with other technologies in creating more secure power networks.

In order for electric utilities and power grid operators to adopt HTS cables, they must first observe the successful testing and operation of HTS cables in high voltage test facilities and in actual power grid installations. The first phase of HTS cable demonstrations began in 1996 and ended in the first half of 2003. The demonstration projects involved in the first phase were highly successful; only the Detroit Edison HTS cable project, which was run by Pirelli Energia e Sistemi (Pirelli), fell short of its goal when leaks developed in the cable's thermal insulation system (the cable cryostat). The list of projects in the first phase includes:

Pirelli: 50m, 115kV, 2000 A, Pirelli test facility (1996-1999);

Pirelli: 120m, 24 kV, 2400 A, Detroit substation (2000-2002);

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Sumitomo: 30m, 66 kV, 1000 A, TEPCO test facility (1996-1999);

Sumitomo: 100m, 66 kV, 1000 A, TEPCO test facility (2000-2002);

Southwire: 30m, 12.5 kV, 2600 A, Southwire manufacturing plant (1998-Present);

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nkt cables: 30m, 30 kV, 2000A, Copenhagen substation (1999-2003); and

Condux: 5m, 2000 A, Condux test facility (2001-2002).

The second phase of HTS cable demonstrations includes eight to ten new cable projects that are currently underway. These demonstrations are occurring in the U.S., Europe, China, Korea, Japan and Mexico. In April 2005, Changtong Cable Company successfully demonstrated a distribution voltage HTS cable in China. This cable, which is one of two HTS cable demonstrations underway in China, utilizes our 1G HTS wire. In April 2005, we were selected as the HTS wire supplier for a distribution voltage cable that will be manufactured by Ultera for a demonstration in an American Electric Power substation in Columbus, Ohio in 2006. In June 2005, we were selected by Condux Cable Company to be the HTS wire supplier for a distribution voltage cable they will manufacture and install in an electrical substation in Mexico City, Mexico, in 2006.

In April 2003, we were selected by the DOE as prime contractor to install a half-mile long, 600 megawatt (MW), 138 kilo-Volt (kV) HTS cable system in the power grid of Long Island Power Authority (LIPA). We selected Nexans as our subcontractor to manufacture the HTS cable, the cable cryostat and the cable terminations, and we selected Air Liquide to provide the cryogenic system design and the refrigeration equipment. We have produced approximately 160,000 meters of HTS wire for this project and delivered all of the wire to Nexans during the fiscal year ended March 31, 2006. We expect the cable system to be installed by the end of calendar year 2006 and energized by March 31, 2007.

The DOE provides project financing and technical review for the LIPA cable project. The cable system is being designed to become a permanent part of the LIPA power grid. We view this project as a major step toward commercial HTS cable sales. We are currently discussing commercial power cable applications with several potential end users in the U.S. and abroad. There can be, however, no assurance that operators of transmission and distribution grids will adopt HTS power cables after the demonstration projects are complete. To the extent that HTS cables are adopted for commercial applications, we believe our HTS wire will be competitive and that we will have a significant market for our HTS wires in power cable applications.

*Key Markets for HTS Wire (Utility Generators).* We believe another significant market for our HTS wire will be utility generators that produce 100 MVA or more of power. Benefits of using HTS wires in these generators include improved VAR control, longevity (HTS generator coils run cold, so there are no thermal stresses), smaller size, weight and footprint, improved energy efficiency, and potentially lower costs. GE Energy, a business of the General Electric Company, has canceled its program to develop a 100 MVA HTS electrical generator, citing the need for a more cost effective wire. We believe that the availability of 2G HTS wire will rekindle interest in this area among the four primary manufacturers of utility generators Alstom Power, GE Energy, Mitsubishi Electric and Siemens-Westinghouse. However, we can make no assurances that these generator manufacturers will develop commercial HTS generators and, to the extent they are successful, that they will choose our HTS wire.

*Key Markets for HTS Wire (Rotating Machines).* Our SuperMachines business unit produces rotating HTS machines and is a customer for wire produced by our AMSC Wires business unit. AMSC Wires also sells its HTS wire to other manufacturers of rotating machines. The SuperMachines business is focused on electric motors and generators for marine propulsion and on synchronous condensers for power grid reliability. A review of this business unit's products and markets is provided later.

We believe the market for HTS wire for electric motors and generators will be large, and we believe we are in a position to capture a significant share of this market; however, we cannot provide assurance that a market for HTS electric motors, generators and synchronous condensers will develop or, to the extent that it does, that our HTS wire will be purchased by the manufacturers of these machines.

*Other HTS Wire Applications.* Over the last several years, we have sold our HTS wire to a number of OEMs and research and development organizations that are developing other applications for HTS wire.

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We have sold HTS wire for transportation, military, medical, magnetic separation and other applications. Many of these applications, such as transformers and fault current limiters, are in the early development stage. We believe that 2G HTS wire will facilitate applications such as transformers and fault current limiters because it has favorable physical properties for these applications. In February 2005, we signed a strategic business alliance agreement with Siemens to develop our 2G HTS wire for fault current limiters. Siemens and AMSC now have successfully demonstrated fast and uniform switching of AMSC's 2G HTS wire to a resistive state in response to surges of current, confirming the functionality of the wire for use in the production of economically viable fault current limiters. AMSC and Siemens renewed their strategic alliance for a second year in February 2006 and have targeted the demonstration of a small-scale 2G HTS fault current limiter device by the end of the second year of the alliance. We are now investigating opportunities with Siemens to demonstrate a full three-phase prototype in the power grid.

During the fiscal year ended March 31, 2004, we sold our 1G HTS wire to Central Japan Railway for use in a prototype electromagnet to be used in a maglev train system. Central Japan Railway reported in May 2004 that the wire met their needs for electrical performance and robustness and was likely to lead to lower costs for maglev train systems. In November 2005, Central Japan Railway Company successfully ran its magnetically levitated train system for the first time utilizing HTS electromagnetic coils powered by our HTS wire. The maglev train attained speeds as high as 500 kilometers per hour (approximately 311 miles per hour).

Some of these other applications have the potential to become important markets for our HTS wire, and we will continue to market our HTS wire to the developers of these and other new products. We cannot make any assurances, however, that these markets will develop, that they will become significant markets or that our HTS wire will be purchased for use in these markets.

*Sales and Marketing for HTS Wire.* We plan to sell wire to a broad OEM market, and we are aiming for a high market share, which we plan to protect by being the market leader in performance, cost, service and intellectual property. We are focusing our business and market development efforts on key OEMs that we believe are the market leaders. By establishing strong relationships with these market leaders, we can foster more rapid market development and have a significant impact on industry standards. Most of our key OEMs are serviced by our direct sales force. However, in some areas we have found it advantageous to form sales alliances to establish ourselves in the market. For example, in the fall of 2001, we signed a multi-year distribution agreement with Kiswire Ltd., a leading Korean wire manufacturer, to distribute HTS wire in the Korean market, and in October 2005, we signed a distribution agreement with Suzuki Shokan KK to distribute our 2G HTS wire in Japan.

Our Advanced Grid Solutions business development team, described earlier, is helping us build demand for HTS wire and further penetrate key markets. We are leveraging this team's experience in transmission planning by working with utilities to identify locations in their system where HTS solutions would add value to their power grids. We are also applying the team's project management experience to facilitate project concept development, close orders and implement projects.

*Competition for HTS Wires.* We face competition both from vendors of traditional wires, such as copper, and from competitors who are selling 1G HTS wires. Competitors in the market for 1G HTS wire presently include Sumitomo Electric Industries (Japan), European High Temperature Superconductors (EHTS), a division of Bruker Biospin (Germany), and Innova Superconductor Technology Co. Ltd. (China).

However, competition is focusing increasingly on 2G HTS wire from a number of companies in the U.S. and abroad. These include: Intermagnetics General Corporation-Superpower and MetOx in the U.S.; Fujikura, Furukawa, Showa and Sumitomo Electric in Japan; and Nexans, Trithor, Theva, Evico and EHTS in Europe. Impressive laboratory results have been achieved by some of our 2G HTS wire competitors. However, we believe that the proprietary processes we have adopted will prove to be the best processes to provide not only high performance wire, but also commercial quantities at the lowest cost. In particular, Nexans, Showa, Sumitomo Electric and Trithor have focused their research programs on the development of 2G HTS wire made





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by the same or similar processes we have chosen to utilize to manufacture 2G HTS wire. We view this development as a validation of our conclusion that our proprietary 2G HTS wire process is the best to provide high performance 2G HTS wire in commercial volumes at the lowest cost. We believe we have a significant technical and manufacturing scale-up lead on these and any other companies that decide to try to duplicate our propriety 2G HTS wire manufacturing process. We also believe that we have a strong intellectual property position, including patent rights and know-how, which will help us maintain a competitive advantage in the area of 2G HTS wire products. However, there can be no assurance that this will be the case.

Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we do. In addition, as HTS wire markets develop, other large industrial companies may enter these fields and compete with us.

### ***SuperMachines Business***

Our SuperMachines business unit is responsible for the design, development, manufacturing, testing and commercialization of HTS electric motors with power ratings up to approximately 50,000 hp (37.5 MW), generators with power ratings generally in the range of 20 to 100 MVA, and dynamic synchronous condensers with reactive power ratings up to 50 mega-VAR (MVAR). This business buys HTS wire from our AMSC Wires business and winds the wire into electromagnetic coils of various sizes and shapes, which we incorporate into the rotors of motors, generators and dynamic synchronous condensers, all of which are AC synchronous rotating machines. In such rotating machines, the rotor coils utilize DC, to which our HTS wire exhibits zero electrical resistance, a feature that typically cuts the electrical losses of AC synchronous rotating machines in half compared with copper wire-based machines.

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The use of HTS wire in rotating machines provides us with significant competitive advantages by enabling dramatic reductions in size, weight and manufacturing costs relative to conventional machines. Because of the manufacturing cost reductions associated with the reduced size of our HTS rotating machines, we expect the market price of our rotating machines to be equivalent to that of copper-based machines at the same power and torque rating. The advantages of HTS rotating machines in ship propulsion applications are summarized in the following figure:

The HTS rotor coils in our superconductor rotating machines are cooled using commercially available mechanical refrigerators located near the machine, which cool the rotor using our patented techniques.

The cooling systems used for HTS motors, generators and dynamic synchronous condensers are closed loop, meaning that the cooling medium circulates inside a closed system from the region of the HTS coils on the rotor, where the cooling medium picks up heat, to the cold head of the refrigerator, where the cooling medium releases heat and is chilled again. The cooling media we typically use for our rotating machines are either liquid neon or gaseous helium. In the case of our neon systems, the liquid neon absorbs heat by turning into a gas, which is condensed back to liquid at the cold head outside the rotating machine much like the cycle in home refrigerators. In the case of gaseous helium, no liquid phase is involved.

Our AC synchronous rotating machines have a higher net efficiency, including the losses associated with the cooling system, than conventional machines of the same power rating. This efficiency gain is particularly noteworthy when an HTS rotating machine is operated at part load, such as in marine propulsion applications when a ship is moving at slow speeds. The stator coils in our AC synchronous machines utilize copper windings, which are cooled either with air, oil or water, in a manner similar to that used for conventional motors and generators.

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Our SuperMachines business unit is experienced in HTS rotating machine design, development and testing, and has built a significant portfolio of intellectual property, much of which is protected by more than 47 U.S. and 57 international patents and patents pending. We believe that we are well positioned to transform the 100-year-old rotating machine industry with our innovative HTS technology. Our history of involvement in the development of HTS rotating machines is shown in the following figure:

In January 2003, TVA awarded SuperMachines a contract for the design, fabrication and delivery of a prototype SuperVAR dynamic synchronous condenser to be used to enhance power grid stability by generating reactive power at critical locations in its power grid. The advanced prototype underwent extensive and rigorous testing in the TVA power grid in Tennessee. As a result of the success of this testing, we have received an order for the first two SuperVAR machines, the first of which we expect to ship by December 31, 2006 and the second by March 31, 2007. We believe these will be the world's first commercial HTS power grid products.

In February 2003, SuperMachines was awarded a competitively bid contract by the U.S. Navy to design and manufacture a 36.5-MW, 120 rpm HTS marine propulsion motor. This motor, which is on schedule for delivery in September 2006, is expected to be evaluated by the Navy for possible use in its new classes of electric warships, which it plans to start building during this decade. This contract, worth approximately \$90 million on a firm-fixed-price basis as of April 2006, is the largest in our history and represents a major milestone in the development of HTS rotating machines in general, and of military and commercial ship propulsion motors, in particular. This contract represents the fifth in a series of U.S. Navy awards to SuperMachines since 1999 for the conceptual and preliminary design of HTS ship propulsion motors and the development and manufacture of such motors.

*Manufacturing, Sales and Marketing for HTS Rotating Machines.* Our SuperMachines business currently operates out of a 27,000-square-foot facility in Westborough, Massachusetts. Operations conducted here include machine design, coil development, manufacturing and testing, exciter development, assembly and testing, and motor assembly and testing. We outsource the manufacture of copper-based stators, which we use in our HTS motors, to conventional motor manufacturers. We also outsource other components that are used in our HTS motors that are not unique to HTS rotating machines. The manufacture of the HTS coils, refrigeration system and exciter are completed internally along with the rotor assembly.

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Our plan for future manufacturing, sales and marketing of HTS rotating machines is to form a business alliance with one or more motor manufacturers and/or marine propulsion system integrators. In October 2004, we signed such an agreement with Northrop Grumman Marine Systems for the U.S. military market. We believe this approach will provide us with more effective and quicker paths to manufacture and deliver motors and generators, as well as access to established sales and distribution channels and experienced sales and lifetime support teams. We also believe this approach will accelerate market adoption of our new HTS rotating machines. We are currently working with Northrop Grumman Marine Systems and Ideal Electric as subcontractors for our rotating machine development and demonstration programs. We expect to create additional business alliances similar to the Northrop Grumman Marine Systems relationship as we enter the commercial markets for HTS rotating machines over the next several years.

*Competition for HTS Rotating Machines.* We face competition for our high-power HTS rotating machines from companies that manufacture traditional machines made with copper wires including: Asea Brown Boveri Ltd. (ABB), Alstom, Brush Industries, GE Energy, Hitachi, Ideal Electric, Siemens and Toshiba.

We also face competition from manufacturers of permanent magnet motors, which have been under development over the last decade. Permanent magnet motors are another technology being considered by the U.S. Navy for electric drives. Companies developing high-power permanent magnet motors include ABB, DRS Technologies, General Dynamics and Siemens. There are also at least three companies—Rockwell Automation, Siemens and IHI (Japan) with Sumitomo Electric Industries—that are developing HTS electric motors, or who have demonstrated HTS motors over the last several years.

Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we do. In addition, as HTS rotating machine markets develop, other large industrial companies may enter these fields and compete with us.

### ***Power Electronic Systems Business***

Our Power Electronic Systems business unit designs, develops, assembles, tests and sells power electronic converters that rapidly switch, control and modulate power. This business unit is responsible for product development, marketing and sales of our proprietary PowerModule power electronic converter to OEMs, which integrate this product into electric motor drives; distributed and dispersed generation devices, such as micro-turbines, fuel cells and wind turbines; and power quality solutions, such as battery and flywheel-based uninterruptible power supplies. We expect that our PowerModule power converters will encompass power ratings from 60 to 1,000 kW per PowerModule power converter.

Our PowerModule power converters utilize a proprietary printed circuit board design that enables us to incorporate a microprocessor into the power converter and create programmable power converters.

Programmability is important because individual PowerModule converters or integrated stacks of PowerModule converters can be programmed to meet the needs of different customers to control and condition varying levels of power from tens of kilowatts to megawatts across a wide range of applications.

Flexibility, scalability and high power density are key PowerModule power converter product features. We believe the PowerModule power converter design will allow us to reduce the manufacturing costs of power electronic converters at power levels above 60 kW.

In addition to PowerModule power converter hardware, our Power Electronic Systems business unit is responsible for software development for the PowerModule power converters, as well as for the software needed to integrate the PowerModule power converters into final systems.

Our primary commercial PowerModule product today has a power rating ranging from 60 kW to 1,000 kW. These products are known as the PM1000 and PM2000. The PM2000 converter is used in our commercial distributed superconductor magnetic energy storage (D-SMES), dynamic VAR (D-VAR), Dynamic VAR Compensators (DVC) and power quality industrial voltage restorer (PQ-IVR) product lines.

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We have completed the development of our next generation of PowerModule power converters, which we call the PowerModule PM1000, or PM1000 power converter. The PM1000 power converter family features a scalable, modular and flexible design architecture. It is an intelligent and fully integrated power converter that has a compact package design and yields a very high power density of up to 130 Watts/cubic inch. Features of this design include:

state-of-the-art IGBT technology;

scalable design;

flexible architecture; and

high power density.

In fiscal 2004, we delivered our first two products based on the PowerModule PM1000 power converters. These products included a 2-MW generator power conditioning and control system for the Royal Navy (of Great Britain) and components for the pulsed power system of a new electric weapons platform for the U.S. Army. In addition, we have obtained our first order for PM1000s to be utilized for power flow control of a wind turbine. In January 2005, we introduced the PowerModule PM1000 Product Developers Kit in order to further develop the market for this new product, which was well received by our customers. In fiscal 2006, the PowerModule PM1000 power converters gained momentum in the marketplace with over 200 units sold. This included two separate sales of 23 and a follow-on order for 150 systems for power flow controllers in wind generators from Windtec Systemtechnik GmbH. We believe the orders we received both for individual PM1000 units and for Product Developers Kits in the fiscal year ended March 31, 2006 provide a good foundation upon which we can build additional sales of PM1000 power converters in the fiscal year ending March 31, 2007 and beyond.

The Power Electronic Systems business unit also develops, markets and sells a line of power quality and reliability solutions based on our PowerModule power converters that provide customer benefits further up the power electronics value chain, as shown in the following chart.

Our power quality and reliability solutions are used in a variety of transmission grid, wind farm and manufacturing applications. The systems are based on our PowerModule power converters and may be integrated with a SMES device, which can store and inject large quantities of real power along with the reactive power from the PowerModule converters. Our commercial integrated power electronic systems include the following:

*PQ-IVR* Our PQ-IVR systems are installed in transmission substations that bring power into industrial manufacturing sites. These systems protect manufacturing operations from the adverse effects of momentary voltage sags. PQ-IVR systems detect voltage drops on the power lines coming into manufacturing sites and instantly inject power into the lines to restore the voltage to the required range of operating voltages. Our

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transmission planning team works with industrial customers to determine the optimum configuration for each industrial site. Our PQ-IVR systems protect entire manufacturing operations that have electrical loads over 5 MW (as opposed to lower power, point-of-use protection devices that must be installed at various sites within the manufacturing operation). We believe our PQ-IVR systems provide a cost-effective solution to the problem of voltage sags, which can cost manufacturers millions of dollars in downtime, damaged equipment and lost work-in-process. Major target customers for PQ-IVR systems are semiconductor manufacturers because they are well aware of the impact of voltage sags on productivity and the resulting high cost of downtime.

*D-VAR* Our Dynamic VAR (D-VAR) product, which comprises an integrated array of our PowerModule power converters, offers a powerful yet cost-effective way of regulating and stabilizing voltage levels by injecting reactive power (VARs) into the power grid at precise locations where voltage problems can occur. This restores the voltage of the power grid to normal levels. D-VAR systems enable operators to increase large-scale power flow through existing transmission lines, significantly increasing power grid asset utilization. D-VAR systems are also a cost-effective and readily deployable solution. Given these factors and the current federal emphasis on increasing transmission capacity and reducing related regulatory hurdles, we expect demand for D-VAR systems by utilities and transmission companies to grow as investment in grid infrastructure increases and regulatory barriers fall.

*DVC* Our Dynamic VAR Compensator (DVC) solutions are based on the widely successful D-VAR system. They are a hybrid Statcom/SVC solution that utilizes inverter-based FACTs (Flexible AC Transmission systems) technology similar to the D-VAR system and proprietary fast-switched capacitors and reactors. We have developed the DVC system to address the need for a large-block solution requiring hundreds of MVARs of reactive compensation. The DVC systems are scaleable and can be customized to meet any dynamic reactive compensation needs. The combination of inverter-based dynamic VARs and fast-switched shunt elements allows a large-block DVC solution to be more economically favorable than just a statcom or an SVC, without compromising its performance. At the heart of the dynamic portion of the DVC solution is the D-VAR system, which has a proven track record in the field and has performed with the highest of reliability. Our PowerModule power converters are the building blocks that make up the D-VAR systems. These inverters are highly power dense and have transient overload capability, which allows the DVC solution to be even more cost effective.

*D-SMES* Distributed SMES (D-SMES) systems comprise a D-VAR system with a superconductor storage magnet to provide a source of real power. D-SMES systems protect electric utilities by stabilizing voltage in power grids through the simultaneous injection of large amounts of reactive power from an array of PowerModule converters and real power from the superconductor magnet. The primary difference between the D-VAR and D-SMES systems is that a D-VAR system does not contain a SMES device. The decision of whether to incorporate a SMES device into a power grid reliability solution is dependent on site-specific issues. This flexibility enables us to provide the most cost-effective solution for each application.

*Transmission Planning Capabilities.* Our Power Electronic Systems business unit has in-depth knowledge of and extensive experience in the design and structure of transmission and distribution grids. Its Transmission Planning Group uses sophisticated software programs to perform analyses of the effects of disturbances in power grids to determine grid reliability under normal and peak loading conditions. This group also analyzes the effects of the incorporation of standard technologies such as capacitors and static VAR compensators (SVCs) and advanced technologies such as HTS cables, D-SMES systems, D-VAR systems and SuperVAR synchronous condensers into power grids. They perform similar analyses to determine the optimum power quality solution for industrial manufacturing sites. Our Transmission Planning Group plays a significant role in the sales and marketing of our power electronic systems products and solutions.

*Manufacturing, Sales and Marketing of Power Electronic Systems.* Our Power Electronic Systems business unit operates out of facilities in New Berlin and Middleton, Wisconsin. In New Berlin, we design, develop and test our PowerModule power electronic converters. We outsource the manufacture of PowerModule power converters, allowing us to focus on our core competency of design and final test of PowerModule systems. We assemble and





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test components and PowerModule power converters for incorporation into our integrated power electronic systems such as D-SMES, D-VAR, DVC and PQ-IVR systems in our Middleton, Wisconsin facility. We outsource the manufacture of superconductor magnets needed for D-SMES systems, which allows us to focus on our core competency of integrating components for our commercial power quality and reliability systems.

In April 2000, we entered into a co-marketing and sales alliance with GE Industrial Systems (GEIS), a business of General Electric, to market and sell co-branded D-SMES systems on an exclusive basis to North American electric utilities. The alliance agreement was expanded to include the marketing and selling of co-branded D-VAR systems once we introduced this new product in May 2002.

The co-marketing and sales alliance with GEIS was transferred to GE Energy, also a business of General Electric, in 2003. In June 2003, we renewed and expanded our co-marketing sales alliance to include co-marketing and sales of D-VAR and D-SMES systems to South American electric utilities. We also agreed to sell co-branded PQ-IVR systems with GE to certain industrial customers.

Our joint sales and marketing tactics include calls on customers using members of both our and GE Energy's direct and regional sales teams. In June 2006, we informed GE Energy that we would continue to work with them on a nonexclusive basis going forward, a change that we believe will give us more freedom in the marketplace and will increase our sales. We have agreed to continue to work with GE Energy on sales opportunities that they bring to us on basically the same terms that existed under our most recent exclusive arrangement.

Our sales of individual PowerModule power converters are managed by our direct sales force in the U.S. and in Europe. We have sold and intend to sell both individual PowerModule power converters as well as integrated PowerModule power converters for applications such as motor drives, uninterruptible power supplies, wind turbines and distributed generation applications.

*Competition for Power Electronic Systems.* We face competition from other companies selling power reliability products, such as STATCOM (Static Reactive Compensation) and SVC products made by ABB, Alstom, Mitsubishi Electric Power Products and Siemens; DVRs (dynamic voltage restorers) produced by companies such as ABB and S&C Electric; and flywheels and battery-based UPS systems offered by various companies around the world. We do not know of any companies currently selling commercial SMES products; however, there are at least three organizations that have fielded SMES systems: Technova and Toshiba in Japan and ACCEL Instruments GmbH in Germany. There are also several government-sponsored programs in Japan and Korea on SMES based on HTS wire.

We face competition from companies that are developing power electronic converters for use in applications for which we expect to sell our PowerModule products. These companies include Ecostar, Inverpower, SatCon, Semikron and Xantrex.

Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we do. In addition, as the power quality and reliability markets develop, other large industrial companies may enter these fields and compete with us.

## **Patents, Licenses and Trade Secrets**

*Patent Background*

An important part of our business strategy is to develop a strong worldwide patent position in all of our technology areas. Our patent portfolio comprises both patents we own and patents we license from others. We devote substantial resources to building a strong patent position and we believe that we have significantly strengthened our position in the past several years. As of March 31, 2006, we owned (either alone or jointly) 139 U.S. patents and had 36 U.S. patent applications on file. We also hold licenses from third parties covering over 124 issued U.S. patents and 23 U.S. patent applications. Together with the international counterparts of each of these patents, patent applications and licenses, we own more than 370 patents and patent applications worldwide,

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and have rights through exclusive and non-exclusive licenses to more than 355 additional patents and patent applications. We believe that our current patent position, together with our expected ability to obtain licenses from other parties to the extent necessary, will provide us with sufficient proprietary rights to develop and sell our products. However, for the reasons described below, there can be no assurance that this will be the case.

Despite the strength of our patent position, a number of U.S. and foreign patents and patent applications of third parties relate to our current products, to products we are developing, or to technology we are now using in the development or production of our products. We may need to acquire licenses to those patents, or to successfully contest the scope or validity of those patents, or to design around patented processes or applications.

If companies holding patents or patent applications that we need to license are competitors, we believe the strength of our patent portfolio will significantly improve our ability to enter into license or cross-license arrangements with these companies. In July 2003, we executed a cross license agreement with Sumitomo Electric under which we licensed to each other North American and European patents related to 1G HTS wires, electromagnetic coils, electromagnets and current lead devices. However, there can be no assurance that we will be able to obtain all necessary licenses from competitors on commercially reasonable terms, or at all.

We may be required to obtain licenses to some patents and patent applications held by companies or other institutions, such as national laboratories or universities, not directly competing with us. Those organizations may not be interested in cross-licensing or, if willing to grant licenses, may charge unreasonable royalties. We have successfully obtained licenses from a number of such organizations, including Lucent Technologies, MIT, ORNL, Superlink of New Zealand and Toshiba in Japan, with royalties we consider reasonable. Based on past experience, we expect that we will be able to obtain other necessary licenses on commercially reasonable terms. However, there can be no assurance that we will be able to do so.

Failure to obtain all necessary licenses upon reasonable terms could significantly reduce the scope of our business and have a materially adverse effect on our results of operations. We do not now know the likelihood of successfully contesting the scope or validity of patents held by others. In any event, we could incur substantial costs in challenging the patents of other companies. Moreover, the nature of HTS patents is such that third parties are likely to challenge some of our patents or patent applications, and we could incur substantial costs in defending the scope and validity of our own patents or patent applications whether or not a challenge is ultimately successful.

### ***HTS Patents***

Since the discovery of high temperature superconductors in 1986, the HTS industry has been characterized by rapid technical advances, which in turn have resulted in a large number of patents, including overlapping patents, relating to superconductivity being applied for and granted worldwide. As a result, the patent situation in the field of HTS technology and products is unusually complex.

At any given time, we will have a preference for using one or a few specific HTS materials in the production of our products. Any HTS material we use is likely to be covered by one or more patents or patent applications held by other parties. We have obtained licenses to patents and patent applications covering some HTS materials, including an exclusive license from Superlink and non-exclusive licenses from Lucent Technologies and Toshiba. However, we may have to obtain additional licenses to HTS materials.

## Edgar Filing: AMERICAN SUPERCONDUCTOR CORP /DE/ - Form 10-K

Because we have had two methodologies for producing HTS materials into wire, known as 1G and 2G HTS wire, our strategy has been to obtain a proprietary position in both methodologies through a combination of patents, licenses and proprietary know-how. In May 2006, we announced we had completed the transition to 2G HTS wire and, as a result, all 1G wire production was indefinitely suspended. We are continuing to develop and ramp up production of 2G HTS wire, and we intend to continue to obtain a proprietary position in 2G HTS wire through a combination of patents, licenses and proprietary know-how. If alternative processes become more promising in the future, we will also seek to develop a proprietary position in these alternative processes.

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We have filed a number of patent applications that are applicable to 1G and 2G HTS wire architectures. Some of these applications have been issued as patents in the U.S. and abroad, while others are pending. We have acquired an exclusive license from MIT and non-exclusive licenses from ORNL and Lucent Technologies to intellectual property relating to 2G HTS wire, and non-exclusive licenses from Lucent Technologies, Sumitomo Electric and Toshiba relating to the production of 1G HTS wire. We have also acquired certain intellectual property rights in the 2G HTS wire through our collaboration with EPRI.

We have an exclusive license from MIT under an issued U.S. patent that covers the architecture of 1G and 2G HTS wire, specifically the composite of HTS ceramics and noble metals such as silver. The scope of this patent was the subject of an action in the U.S. District Court of Massachusetts. In September 2002, the court ruled in our favor. We were also issued patents on laminate structures for 1G HTS wire and on new architectures for 2G HTS wire that involve lamination technology.

With our decision to indefinitely suspend manufacturing of 1G HTS wire, we have expensed the capitalized value of our 1G HTS wire patent portfolio. However, we will maintain certain key patents in this portfolio at least as long as we are still selling our substantial 1G HTS wire inventory.

A number of other companies have also filed patent applications, and in some instances these have become issued patents, on various aspects of wire processing and wire architecture. To the extent that any of these issued or pending patents might cover the wire processing methodologies or wire architectures we use, we may be required to obtain licenses under those patents; however, there is no assurance that we will be able to do so.

### ***HTS Component and Subsystem Fabrication Patents; HTS Application Patents***

We have received several patents and have filed a significant number of additional patent applications regarding:

the design and fabrication of electromagnetic coils, electromagnets and degaussing cables;

the integration of these products with an appropriate coolant or cryocooler;

the application of these products to specific end uses; and

HTS motor, generator and synchronous condenser designs.

Since the HTS rotating machine field is relatively new, we believe we are building a particularly strong patent position in this area. A number of other companies have also filed, and in some instances have received, patents on various applications of HTS component and subsystem fabrication methods. If any existing or future patents cover any of these aspects of our operations, we may be required to obtain licenses under those patents.

*Power Electronic Systems*

We have received several patents and filed a significant number of additional patent applications on power quality and reliability systems, including the D-SMES, D-VAR, DVC and PQ-IVR systems. We have acquired a non-exclusive license from Argonne National Laboratory on a cryogenic connector for SMES applications. We believe we have a strong patent position in the SMES area, and have also filed a series of patents on our proprietary power electronic modules. We have licensed some of our patents specifically on SMES to third parties.

*Trade Secrets*

Some of the important technology used in our operations and products is not covered by any patent or patent application owned by or licensed to us. However, we take steps to maintain the confidentiality of this technology by requiring all employees and all consultants to sign confidentiality agreements and by limiting access to confidential information. However, no assurance can be given that these measures will prevent the unauthorized disclosure or use of that information. In addition, there is no assurance that others, including our competitors, will not independently develop the same or comparable technology that is one of our trade secrets.

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### Employees

As of March 31, 2006, we employed a total of 241 persons, 27 of whom have a Ph.D. in materials science, physics or related fields. None of our employees is represented by a labor union. Retaining our key employees is important for achieving our goals, and we are committed to developing a working environment that motivates and rewards our employees. At the present time, we believe that we have good relations with our employees.

### Item 1A. *Risk Factors*

Various statements included herein, as well as other statements made from time to time by our representatives, which relate to future matters (including but not limited to statements concerning our future commercial success) constitute forward looking statements and are made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. There are a number of important factors that could cause our actual results of operations and financial condition in the future to vary from that indicated in such forward looking statements. Factors that may cause such differences include, without limitation, the risks, uncertainties and other information set forth below.

#### **We have a history of operating losses, and we expect to incur losses in the future.**

We have been principally engaged in research and development activities. We have incurred net losses in each year since our inception. Our net loss for the fiscal years ended March 31, 2006, March 31, 2005, and March 31, 2004 was \$30,876,000, \$19,660,000 and \$26,733,000, respectively. Our accumulated deficit as of March 31, 2005 was \$350,379,000. We expect to continue to incur operating losses until at least the end of fiscal 2009 and there can be no assurance that we will ever achieve profitability.

We had cash, cash-equivalents and marketable securities totaling \$65,669,000 at March 31, 2006. We believe our available cash will be sufficient to fund our working capital needs, capital expenditures, and other cash requirements through at least the end of fiscal 2008. However, we may need additional funds if our performance deviates significantly from our current business plan, if there are significant changes in competitive or other market factors, or if unforeseen circumstances arise. Such funds may not be available, or may not be available under terms acceptable to us.

#### **There are a number of technological challenges that must be successfully addressed before our superconductor products can gain widespread commercial acceptance, and our inability to address such technological challenges could adversely affect our ability to acquire customers for our products.**

Many of our products are in the early stages of commercialization, while others are still under development. There are a number of technological challenges that we must successfully address to complete our development and commercialization efforts. We also believe that several years of further development in the cable and motor industries will be necessary before a substantial number of additional commercial applications for our HTS wire in these industries can be developed and proven. We will also need to improve the performance and/or reduce the cost of our HTS wire to expand the number of commercial applications for it. We may be unable to meet such technological challenges. Delays in development, as a result of technological challenges or other factors, may result in the introduction or commercial acceptance of our products later than anticipated.

**The commercial uses of superconductor products are limited today, and a widespread commercial market for our products may not develop.**

To date, there has been no widespread commercial use of HTS products. Commercial acceptance of low temperature superconductor (LTS) products, other than for medical magnetic resonance imaging and superconductor magnetic energy storage (SMES) products, has been significantly limited by the cooling requirements of LTS materials. Even if the technological hurdles currently limiting commercial uses of HTS and LTS products are overcome, it is uncertain whether a robust commercial market for those new and unproven products will ever develop. It is possible that the market demands we currently anticipate for our HTS and LTS products will not develop and that superconductor products will never achieve widespread commercial acceptance.



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**We have limited experience manufacturing our HTS products in commercial quantities, and failure to manufacture our HTS products in commercial quantities at acceptable cost and quality levels would impair our ability to meet customer delivery requirements.**

To be financially successful, we will have to manufacture our products in commercial quantities at acceptable costs while also preserving the necessary performance and quality levels. We cannot make assurances that we will be successful in developing product designs and manufacturing processes that permit us to manufacture our HTS products in commercial quantities at acceptable costs while preserving the necessary performance and quality. In addition, we may incur significant unforeseen expenses in our product design and manufacturing efforts.

**We have never manufactured our 2G HTS wire in commercial quantities, and failure to manufacture our 2G HTS wire in commercial quantities at acceptable cost and quality levels would substantially limit our future revenue and profit potential.**

We are in the early stages of developing our commercial-scale 2G HTS wire manufacturing processes, which are very different from our 1G HTS wire manufacturing processes and are also extremely complex and challenging. We may not be able to manufacture satisfactory commercial quantities of 2G HTS wire of consistent quality, yield and cost. Failure to successfully scale up manufacturing and drive down the cost of our 2G HTS wire would result in a significant limitation of the broad market acceptance of our HTS products and of our future revenue and profit potential.

**We have limited experience in marketing and selling our products, and our failure to effectively market and sell our products could adversely affect our revenue and cash flow.**

To date, we have limited experience marketing and selling our products, and there are few people who have significant experience marketing or selling superconductor products. Once our products are ready for widespread commercial use, we will have to develop a marketing and sales organization that will effectively demonstrate the advantages of our products over both more traditional products and competing superconductor products or other technologies. We may not be successful in our efforts to market this new technology, and we may not be able to establish an effective sales and distribution organization.

We may decide to enter into arrangements with third parties for the marketing or distribution of our products, including arrangements in which our products, such as HTS wire, are included as a component of a larger product, such as a motor. By entering into marketing and sales alliances, the financial benefits to us of commercializing our products are dependent on the efforts of others. We may not be able to enter into marketing or distribution arrangements with third parties on financially acceptable terms, and third parties may not be successful in selling our products or applications incorporating our products.

**Many of our revenue opportunities are dependent upon subcontractors and other business partners.**

Many of the revenue opportunities for our AMSC Wires business unit involve projects, such as the installation of HTS cables in power grids, on which we partner with other companies, including suppliers of cryogenic systems and manufacturers of electric power cables. In addition, a key element of our SuperMachines business strategy is the formation of business alliances with motor manufacturers and/or marine propulsion system integrators. As a result, most of our current and planned revenue-generating projects involve business partners on whose performance our revenue is dependent. If these business partners fail to deliver their products or perform their obligations on a timely basis, our revenue from the project may be delayed or decreased.

**Our contracts with the U.S. government are subject to audit, modification or termination by the U.S. government, and the continued funding of such contracts remains subject to annual congressional appropriation which, if not approved, could adversely affect our results of operations and financial condition.**

As a company which contracts with the U.S. government, we are subject to financial audits and other reviews by the U.S. government of our costs and performance, accounting and general business practices relating

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to these contracts. Based on the results of its audits, the U.S. government may adjust our contract-related costs and fees. No assurances can be given that adjustments arising from government audits and reviews would not have a material adverse effect on our results of operations. Some of our contracts with the U.S. government are on a firm fixed price basis and, as such, are subject to more financial risk in the event of unanticipated cost overruns.

All of our U.S. government contracts can be terminated by the U.S. government for its convenience. Termination for convenience provisions provide only for our recovery of costs incurred or committed, settlement expenses and profit on work completed prior to termination. In addition to the right of the U.S. government to terminate its contract with us, U.S. government contracts are conditioned upon the continuing approval by Congress of the necessary spending to honor such contracts. Congress often appropriates funds for a program on a fiscal-year basis even though contract performance may take more than one year. Consequently, at the beginning of many major governmental programs, contracts often may not be fully funded, and additional monies are then committed to the contract only if, as and when appropriations are made by Congress for future fiscal years. There can be no assurance that our U.S. government contracts will not be terminated or suspended in the future. The U.S. government's termination of, or failure to fully fund, one or more of our contracts would have a negative impact on our operating results and financial condition. Further, in the event that any of our government contracts are terminated for cause, it could affect our ability to obtain future government contracts, which could, in turn, seriously harm our ability to develop our technologies and products.

### **Our products face intense competition both from superconductor products developed by others and from traditional, non-superconductor products and alternative technologies, which could limit our ability to acquire or retain customers.**

As we begin to market and sell our superconductor products, we will face intense competition both from competitors in the superconductor field and from vendors of traditional products and new technologies. There are many companies in the United States, Europe, Japan and China engaged in the development of HTS wire, including Sumitomo Electric Industries, Intermagnetics General, European High Temperature Superconductors, Nexans, Trithor, Fujikura, Furukawa Electric, Showa, THEVA, and Innova Superconductor Technology. The superconductor industry is characterized by rapidly changing and advancing technology. Our future success will depend in large part upon our ability to keep pace with advancing HTS and LTS technology and developing industry standards. Our SMES products and integrated power electronic products, such as D-VAR, compete with a variety of other products such as dynamic voltage restorers (DVRs), static VAR compensators (SVCs), static compensators (STATCOMS), flywheels, power electronic converters and battery-based power supply systems. Competition for our PowerModules includes products from ABB, Alstom, Siemens, Mitsubishi Electric, Ecostar, Inverpower, SatCon, Semikron and Xantrex. The HTS motor and generator products that we are developing face competition from copper wire-based motors and generators, from permanent magnet motors that are being developed, and from companies developing HTS rotating machinery, including Converteam (formerly Alstom Power Conversion), Doosan Heavy Industries & Construction, GE, Ishikawajima-Harima Heavy Industries Co., Rockwell and Siemens. Research efforts and technological advances made by others in the superconductor field or in other areas with applications to the power quality and reliability markets may render our development efforts obsolete. Many of our competitors have substantially greater financial resources, research and development, manufacturing and marketing capabilities than we have. In addition, as the HTS wire, HTS electric motors and generators, and power electronic systems markets develop, other large industrial companies may enter those fields and compete with us. If we are unable to compete successfully, it may harm our business, which in turn may limit our ability to acquire or retain customers.

### **Third parties have or may acquire patents that cover the HTS materials we use or may use in the future to manufacture our products, and our success depends on our ability to license such patents or other proprietary rights.**

We expect that some or all of the HTS materials and technologies we use in designing and manufacturing our products are or will become covered by patents issued to other parties, including our competitors. If that is

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the case, we will need either to acquire licenses to these patents or to successfully contest the validity of these patents. The owners of these patents may refuse to grant licenses to us, or may be willing to do so only on terms that we find commercially unreasonable. If we are unable to obtain these licenses, we may have to contest the validity or scope of those patents to avoid infringement claims by the owners of these patents. It is possible that we will not be successful in contesting the validity or scope of a patent, or that we will not prevail in a patent infringement claim brought against us. Even if we are successful in such a proceeding, we could incur substantial costs and diversion of management resources in prosecuting or defending such a proceeding.

### **Our patents may not provide meaningful protection for our technology, which could result in us losing some or all of our market position.**

We own or have licensing rights under many patents and pending patent applications. However, the patents that we own or license may not provide us with meaningful protection of our technologies and may not prevent our competitors from using similar technologies, for a variety of reasons, such as:

the patent applications that we or our licensors file may not result in patents being issued;

any patents issued may be challenged by third parties; and

others may independently develop similar technologies not protected by our patents or design around the patented aspects of any technologies we develop.

Moreover, we could incur substantial litigation costs in defending the validity of our own patents. We also rely on trade secrets and proprietary know-how to protect our intellectual property. However, our non-disclosure agreements and other safeguards may not provide meaningful protection for our trade secrets and other proprietary information. If the patents that we own or license or our trade secrets and proprietary know-how fail to protect our technologies, our market position may be adversely affected.

### **Our success is dependent upon attracting and retaining qualified personnel, and our inability to do so could significantly damage our business and prospects.**

Our success will depend in large part upon our ability to attract and retain highly qualified research and development, management, manufacturing, marketing and sales personnel. Hiring those persons may be especially difficult due to the specialized nature of our business.

### **We may in the future acquire complementary businesses or technologies, which may require us to incur substantial costs for which we may never realize the anticipated benefits.**

We may in the future acquire complementary businesses or technologies, although we currently have no commitments or agreements and are not involved in any negotiations with respect to any specific acquisitions. If we do pursue acquisitions, management's attention and resources may be diverted from other business concerns. An acquisition may also involve a significant purchase price and significant transaction-related expenses.

Achieving the benefits of any acquisition would involve additional risks, including:

difficulty assimilating acquired operations, technologies and personnel;

inability to retain management and other key personnel of the acquired business;

changes in management or other key personnel that may harm relationships with the acquired business's customers and employees; and

diversion of management attention as a result of the integration process.

If we do pursue acquisitions, we cannot ensure that we will realize any of the anticipated benefits of any acquisition, and if we fail to realize these anticipated benefits, our operating performance could suffer.

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### **Item 1B. *Unresolved Staff Comments***

Not applicable.

### **Item 2. *Properties***

We operate out of two facilities in Westborough, Massachusetts with a combined total of approximately 129,000 square feet of space. The Two Technology Drive facility in Westborough, which houses our 2G development efforts and corporate personnel, is under a lease that expires on May 31, 2009. The 121 Flanders Road facility, which is used by our SuperMachines business unit, is under a lease that expires on September 30, 2007.

On December 7, 2001, we completed construction and took occupancy of a company-owned 355,000-square-foot HTS wire manufacturing facility located at the Devens Commerce Center in Devens, Massachusetts.

Our Power Electronic Systems business unit operates out of facilities located in Middleton and New Berlin, Wisconsin with a combined total of approximately 83,000 square feet of space. The Middleton, Wisconsin facility comprises approximately 33,000 square feet of space in a building with a lease that expires on December 31, 2008. The New Berlin, Wisconsin facility comprises approximately 50,000 square feet of space under a lease that expires on September 30, 2011.

### **Item 3. *Legal Proceedings***

We are not currently involved in any legal proceedings other than routine litigation or related proceedings incidental to our business that we do not consider material.

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

No matters were submitted to a vote of our security holders during the fourth quarter of the fiscal year ended March 31, 2006.

**Table of Contents****EXECUTIVE OFFICERS OF THE REGISTRANT**

The table and biographical summaries set forth below contain information with respect to our executive officers:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Gregory J. Yurek	59	Chairman of the Board, Chief Executive Officer and President
Alexis P. Malozemoff	62	Executive Vice President and Chief Technical Officer
Thomas M. Rosa	53	Vice President, Chief Financial Officer and Treasurer
Angelo R. Santamaria	43	Vice President and General Manager, AMSC Wires
Charles W. Stankiewicz	47	Senior Vice President, AMSC Power Systems
Terry M. Winter	64	Executive Vice President, Operations and Secretary

*Gregory J. Yurek* co-founded American Superconductor in 1987 and has been chief executive officer since December 1989, president since June 2005 and chairman of the board of directors since October 1991. Dr. Yurek also served as president from March 1989 to February 2004, as vice president and chief technical officer from August 1988 until March 1989 and as chief operating officer from March 1989 until December 1989. Prior to joining American Superconductor, Dr. Yurek was a professor of Materials Science and Engineering at MIT for 12 years. Dr. Yurek has been a director of American Superconductor since 1987.

*Alexis P. Malozemoff* joined American Superconductor as vice president, research and development in January 1991 and was elected our chief technical officer in January 1993 and senior vice president in May 1998. In May 2003, Dr. Malozemoff was appointed executive vice president in addition to retaining the position of chief technical officer. Prior to joining American Superconductor, Dr. Malozemoff spent 19 years at IBM in a variety of research and management positions, most recently as IBM's research coordinator for high temperature superconductivity.

*Thomas M. Rosa* joined American Superconductor in October 1992 as corporate controller and was named to the position of chief accounting officer and assistant secretary in July 1998. In May 2003, Mr. Rosa was appointed vice president of finance and accounting. In July 2004, he was named secretary. In March 2006, Mr. Rosa was appointed vice president, chief financial officer and treasurer. Prior to joining American Superconductor, Mr. Rosa spent ten years in a variety of financial management positions at Wang Laboratories, Lockheed Sanders and most recently was a division controller at Prime Computer.

*Angelo R. Santamaria* joined American Superconductor in April 2004 as vice president and general manager of the AMSC Wires Business Unit. Prior to joining American Superconductor, Mr. Santamaria served as vice president and general manager at Microsemi Corporation, a semiconductor manufacturer. Mr. Santamaria had served in this role since 1997. Previously, Mr. Santamaria held various management positions in Operations and Engineering at Microsemi Corporation.

*Charles W. Stankiewicz* joined American Superconductor in July 1998 as general manager of the Company's Power Electronic Systems business unit based in Middleton and New Berlin, Wisconsin. In March 2006, he was appointed to senior vice president, power systems, which encompasses AMSC's Power Electronic Systems and SuperMachines business units, and the Company's Advanced Grid Solutions business development team. Prior to joining American Superconductor, Mr. Stankiewicz spent eighteen years in a variety of technical and business management positions at Westinghouse Electric Corporation and Asea Brown Boveri (ABB) where he most recently was the vice president of power development.

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*Terry M. Winter* joined American Superconductor in 2004 in the newly created position of executive vice president, Advanced Grid Solutions. In July 2005, he was appointed by the Board of Directors to the position of chief operating officer. In February 2006, he was appointed to the position of executive vice president of operations. In March 2006, he was named secretary. Previously, Mr. Winter served as president and chief executive officer of the California Independent System Operator (ISO), a non-profit public benefit corporation, from 1999 to 2004, and from 1997 to 1999 he served as chief operating officer of that company. Prior to ISO, Mr. Winter spent 30 years in various positions within electric and gas utilities including San Diego Gas & Electric, Salt River Project and Los Angeles Department of Water & Power.



**Table of Contents****PART II****Item 5. Market for Registrant's Common Stock, Related Stockholder Matters and Issuer Purchases of Equity Securities**

Our common stock has been quoted on the NASDAQ National Market under the symbol AMSC since 1991. The following table sets forth the high and low price per share of our Common Stock as reported on the NASDAQ National Market for the two most recent fiscal years:

	<b>Common Stock</b>	
	<b>Price</b>	
	<b>High</b>	<b>Low</b>
<b>Fiscal year ended March 31, 2005:</b>		
First quarter	\$ 15.07	\$ 10.90
Second quarter	13.36	9.01
Third quarter	15.13	10.52
Fourth quarter	14.98	9.70
<b>Fiscal year ended March 31, 2006:</b>		
First quarter	11.45	7.51
Second quarter	11.99	8.70
Third quarter	10.85	6.91
Fourth quarter	11.89	7.92

The number of shareholders of record on June 7, 2006 was 643.

**Dividend Policy**

We have never paid cash dividends on our common stock. We currently intend to retain earnings, if any, to fund the development and growth of our business and do not anticipate paying cash dividends for the foreseeable future. Payment of future cash dividends, if any, will be at the discretion of our board of directors after taking into account various factors, including our financial condition, operating results, current and anticipated cash needs and plans for expansion.

**Issuer Purchases of Equity Securities**

<b>Period</b>	<b>Total Shares</b>	<b>Average Price</b>
	<b>Purchased</b>	<b>Paid Per Share</b>

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7/1/05	7/31/05	56,000(1)	\$	0.01
3/1/06	3/31/06	30,000(1)	\$	0.01

—  
No repurchases occurred during the months not included in this table.

- (1) Represents repurchase of unvested restricted shares from two departed executive officers.

The Company has not publicly announced any programs to repurchase shares of common stock.

**Item 6. Selected Financial Data**

The selected consolidated financial data presented below for the fiscal years ended March 31, 2006, 2005, 2004, 2003 and 2002 have been derived from our consolidated financial statements.

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Included in the fiscal 2006 net loss was a \$4,960,000 long-lived asset impairment charge related to our decision to complete the transition from 1G HTS wire to a lower cost 2G HTS wire manufacturing methodology. The fiscal 2003 net loss included a \$39,231,000 impairment charge related primarily to our building and equipment assets in Devens, MA which was recorded in connection with our transition plans from 1G HTS wire to 2G HTS wire. Included in the fiscal 2002 net loss were restructuring charges of \$5,666,000, relating to a March 2002 workforce reduction and consolidation of facilities, and license costs of \$4,010,000 relating to a license agreement signed with Pirelli.

	Year ended March 31,				
	2006	2005	2004	2003	2002
	(In thousands, except per share data)				
Revenues	\$ 50,872	\$ 58,283	\$ 41,309	\$ 21,020	\$ 11,650
Net loss	(30,876)	(19,660)	(26,733)	(87,633)	(56,985)
Net loss per share	(0.94)	(0.70)	(1.10)	(4.21)	(2.79)
Total assets	133,470	158,917	129,899	101,979	197,795
Working capital	66,220	77,272	46,202	19,407	36,834
Cash, cash equivalents and short and long-term marketable securities	65,669	87,581	52,647	20,049	68,200
Stockholders' equity	115,100	143,510	115,452	87,819	172,166

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

The information required by this Item is attached as *Appendix A* hereto and is incorporated herein by reference.

**Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

Our exposure to market risk through financial instruments, such as investments in marketable securities, is limited to interest rate risk and is not material. Our investments in short and long-term marketable securities consist primarily of corporate debt instruments and are designed, in order of priority, to preserve principal, provide liquidity, and maximize income. Interest rates are variable and fluctuate with current market conditions. We do not believe that a 10% change in interest rates would have a material impact on our financial position or results of operation.

**Item 8. Financial Statements and Supplementary Data**

All financial statements required to be filed hereunder are filed as *Appendix B* hereto, are listed under Item 15(a), and are incorporated herein by reference.

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

Not Applicable.

**Item 9A. Controls and Procedures**

***Evaluation of Disclosure Controls and Procedures***

The Company's management, with the participation of the Company's chief executive officer and chief financial officer, evaluated the effectiveness of the Company's disclosure controls and procedures as of March 31, 2006. The term disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms.

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Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of the Company's disclosure controls and procedures as of March 31, 2006, the Company's chief executive officer and chief financial officer concluded that, as of such date, the Company's disclosure controls and procedures were effective at the reasonable assurance level.

### ***Management's Report on Internal Control Over Financial Reporting***

Management is responsible for establishing and maintaining adequate internal control over our financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as a process designed by, or under the supervision of, the Company's chief executive officer and chief financial officer, and effected by the board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

- (1) Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of assets;
- (2) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of management and directors; and
- (3) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on the financial statements.

Under the supervision and with the participation of the Company's management, including the Company's chief executive officer and chief financial officer, an evaluation was conducted of the effectiveness of the Company's internal control over financial reporting based on the framework in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation under the framework in *Internal Control - Integrated Framework*, management concluded that the Company's internal control over financial reporting was effective as of March 31, 2006.

Management's assessment of the effectiveness of the Company's internal control over financial reporting as of March 31, 2006 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

### ***Changes in Internal Control Over Financial Reporting***

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There was no change in the Company's internal control over financial reporting that occurred during the fiscal quarter ended March 31, 2006 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

**Item 9B. Other Information**

None.

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**PART III**

**Item 10. *Directors and Executive Officers of the Registrant***

The response to this item is contained in part under the caption "Executive Officers" in Part I of this Annual Report on Form 10-K, and in part in our Proxy Statement for the Annual Meeting of Stockholders for the fiscal year ended March 31, 2006 (the "2006 Proxy Statement") in the sections "Corporate Governance - Members of the Board," "Other Matters - Section 16(a) Beneficial Ownership Reporting Compliance," and "Corporate Governance - Code of Business Conduct and Ethics," which sections are incorporated herein by reference.

**Item 11. *Executive Compensation***

The response to this item is contained in the 2006 Proxy Statement in the sections "Executive Compensation" and "Corporate Governance - Compensation of Directors," which sections are incorporated herein by reference. However, information under "Executive Compensation - Compensation Committee Report on Executive Compensation" and "Executive Compensation - Stock Performance Graph" in the 2006 Proxy Statement are not so incorporated.

**Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

The response to this item is contained in the 2006 Proxy Statement in the sections "General Information about Annual Meeting - Beneficial Ownership of Common Stock" and "Executive Compensation - Equity Compensation Plan Information," which sections are incorporated herein by reference.

**Item 13. *Certain Relationships and Related Transactions***

Not Applicable.

**Item 14. *Principal Accountant Fees and Services***

The response to this item is contained in the 2006 Proxy Statement in the section entitled "Ratification of Selection of Registered Public Accounting Firm (Proposal 3)," which section is incorporated herein by reference.

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**PART IV**

**Item 15. *Exhibits and Financial Statement Schedules***

(a) The following documents are filed as Appendix B hereto and are included as part of this Annual Report on Form 10-K:

(1) Financial Statements:

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets

Consolidated Statements of Operations

Consolidated Statements of Cash Flows

Consolidated Statements of Comprehensive Loss

Consolidated Statements of Stockholders' Equity

Notes to Consolidated Financial Statements

(2) Financial Statement Schedules:

Schedule II Valuation and Qualifying Accounts for fiscal years ended March 31, 2006, 2005, and 2004

All other schedules for which provision is made in the applicable regulation of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore have been omitted.

(b) The list of Exhibits filed as a part of this Annual Report on Form 10-K is set forth on the Exhibit Index immediately preceding such Exhibits, and is incorporated herein by reference.



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**Appendix A**

**AMERICAN SUPERCONDUCTOR CORPORATION**

**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL  
CONDITION AND RESULTS OF OPERATIONS**

**Executive Overview**

American Superconductor Corporation was founded in 1987. We are focused on developing, manufacturing and selling products using two core technologies: high temperature superconductor (HTS) wires and power electronic converters for electric power applications. We also assemble superconductor wires and power electronic converters into fully integrated products, such as HTS ship propulsion motors and dynamic reactive compensation systems, which we sell or plan to sell to end users. Current or prospective customers for our products include electric utilities, electrical equipment manufacturers, industrial power users and commercial and military shipbuilders.

Our HTS wire addresses constraints on the power grids in the U.S. and other developed countries by increasing the electric current carrying capacity of the transmission cables comprising these power grids. In addition, our HTS wire, when incorporated into primary electrical equipment such as motors and generators, can provide increased manufacturing and operating savings due to a significant reduction in size and weight of this equipment. Also, our power electronic converters increase the quality and reliability of electric power that is transmitted by electric utilities or consumed by large industrial entities.

Our products are in varying stages of commercialization. Our power electronic converters have been sold commercially, as part of an integrated system, to utilities, manufacturers and wind farm owners since 1999. Our HTS wire has been produced commercially since the beginning of 2003, although its principal applications (power cables, rotating machines, specialty magnets) are currently in the prototype stage. Some of these prototypes are funded by U.S. government contracts, primarily with the Department of Defense and Department of Energy (DOE). One of our major contracts with the U.S. Navy was converted from cost-plus-incentive-fee contract to a firm-fixed-price contract on April 26, 2006. As such, it is subject to more financial risk in the event of unanticipated cost overruns.

Our recent success in the development efforts related to our lower-cost, second generation (2G) HTS wire led to a management decision in March 2006 to complete the transition of our HTS wire manufacturing operation from first generation (1G) to 2G HTS wire. As a result, all 1G wire production has been indefinitely suspended with near-term market needs for HTS wire to be met from more than 400,000 meters of 1G HTS wire inventory that is currently available. We expect this action will enable us to achieve our sales objectives for HTS wire while reducing operating losses and operating cash requirements for our AMSC Wires business unit.

Our cash requirements depend on numerous factors, including successful completion of our product development activities, ability to commercialize our product prototypes, rate of customer and market adoption of our products and the continued availability of U.S. government funding during the product prototype phase. Significant deviations to our business plan with regard to these factors, which are important drivers to our business, could have a material adverse effect on our operating performance, financial condition, and future business prospects. We expect to pursue the expansion of our operations through internal growth and strategic alliances. We are currently in the process of converting our 2G

HTS wire pre-pilot production line into a pilot line, which we expect will have a gross production capacity of approximately 720,000 meters per year in December 2007 and which is expected to require an additional \$12 million to \$14 million in capital investment by December 2007.

**Critical Accounting Policies and Estimates**

The preparation of consolidated financial statements requires that we make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL  
CONDITION AND RESULTS OF OPERATIONS (Continued)**

and liabilities. We base our estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ under different assumptions or conditions.

Our accounting policies that involve the most significant judgments and estimates are as follows:

Revenue recognition and deferred revenue;

Allowance for doubtful accounts;

Long-lived assets;

Inventory accounting;

Deferred tax assets; and

Goodwill.

*Revenue recognition and deferred revenue.* For certain arrangements, such as prototype development contracts and certain product sales, we record revenues using the percentage of completion method, measured by the relationship of costs incurred to total estimated contract costs. We use the percentage of completion revenue recognition method when a purchase arrangement meets all of the criteria in Statement of Position 81-1, Accounting for Performance of Construction-Type and Certain Production-Type Contracts. Percentage of completion revenue recognition accounting is predominantly used on long-term prototype development contracts with the U.S. government, such as the 36.5 Megawatt (MW) motor contract with the U.S. Navy. We follow this method since reasonably dependable estimates of the revenues and costs applicable to various stages of a contract can be made. However, the ability to reliably estimate total costs at completion is challenging, especially on long-term prototype development contracts, and could result in future changes in contract estimates. Since many contracts extend over a long period of time, revisions in cost and funding estimates during the progress of work have the effect of adjusting earnings applicable to prior-period performance in the current period. Recognized revenues and profit or loss are subject to revisions as the contract progresses to completion. Revisions in profit or loss estimates are charged to income in the period in which the facts that give rise to the revision become known. Some of our contracts contain incentive provisions, based upon performance in relation to established targets, which are recognized in the contract estimates when deemed realizable.

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We recognize revenue from other product sales upon customer acceptance, which can occur at the time of delivery, installation, or post-installation, depending on contractual terms, provided persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable and the collectibility is reasonably assured. When other significant obligations remain after products are delivered, revenue is recognized only after such obligations are fulfilled. The determination of what constitutes a significant post-delivery performance obligation (if any post-delivery performance obligations exist) is the primary subjective consideration we evaluate in the context of each product shipment in order to determine whether to recognize revenue or to defer the revenue until all post-delivery performance obligations have been completed. Customer deposits received in advance of revenue recognition are recorded as deferred revenue until customer acceptance is received. Deferred revenue also represents the amount billed to and/or collected from commercial and government customers on contracts which permit billings to occur in advance of contract performance/revenue recognition.

*Allowance for doubtful accounts.* If the financial condition of our customers were to deteriorate, resulting in an impairment of their ability to make payments, additional provisions for bad debt allowances may be required. The allowance for doubtful accounts was \$0 and \$47,000 on March 31, 2006 and March 31, 2005, respectively.

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL  
CONDITION AND RESULTS OF OPERATIONS (Continued)**

Over 75 percent of our total revenues in fiscal 2006 was from two customers we consider to be financially stable—the U.S. government (various agencies thereof) and General Electric. For other customers, allowances for doubtful accounts are evaluated on a case-by-case basis, as necessary, considering several factors such as the age of the accounts receivable, the financial stability of the customer, discussions that may have occurred with the customer, and our judgment as to the overall collectibility of the receivable.

*Long-Lived Assets.* We periodically evaluate our long-lived assets for potential impairment under Statement of Financial Accounting Standards (SFAS) No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets. We perform these evaluations whenever events or circumstances suggest that the carrying amount of an asset or group of assets is not recoverable. Our judgments regarding the existence of impairment indicators are based on market and operational performance. Indicators of potential impairment include:

a significant change in the manner in which an asset is used;

a significant decrease in the market value of an asset;

a significant adverse change in its business or the industry in which it is sold;

a current period operating cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the asset; and

significant advances in our technologies that require changes in our manufacturing process.

If we believe an indicator of potential impairment exists, we test to determine whether impairment recognition criteria in SFAS No. 144 have been met. To analyze a potential impairment, we project undiscounted future cash flows expected to result from the use and eventual disposition of the asset or primary asset in the asset group over its remaining useful life. If these projected cash flows are less than the carrying amount, an impairment loss is recognized in the Consolidated Statements of Operations based on the difference between the carrying value of the asset or asset group and its fair value, less any disposition costs. Evaluating the impairment requires judgment by our management to estimate future operating results and cash flows. If different estimates were used, the amount and timing of asset impairments could be affected.

In the fourth quarter of fiscal 2006, we recorded a \$4,960,000 impairment charge to write down the value of our 1G asset group (consisting of equipment, patents and licenses), related to our decision to complete the transition of our wire manufacturing operations from 1G to 2G HTS wire, and to indefinitely suspend 1G HTS wire manufacturing. No impairment charges were recorded in fiscal 2004 or fiscal 2005. In the fourth quarter of fiscal 2003, we recorded a \$39,231,000 impairment charge to write down our 1G asset group, primarily comprised of the Devens, Massachusetts manufacturing facility and capital equipment, to an estimated fair value in connection with our transition plans from 1G to 2G HTS wire.

*Inventory accounting.* We write down inventory for estimated obsolescence or unmarketable inventory in an amount equal to the difference between the cost of the inventory and the estimated realizable value based upon assumptions of future demand and market conditions. If actual market conditions are less favorable than those projected, additional inventory write-downs may be required. During the fourth quarter of fiscal 2006, in connection with the completion of our transition from 1G to 2G HTS wire, we recorded a 1G HTS wire inventory write-down of \$1,591,000 based on an analysis of existing backlog and anticipated demand for our 1G wire, compared to the available supply of 1G wire.

Program costs may be deferred and recorded as inventory on contracts on which costs are incurred in excess of funding, if future funding is deemed probable. On this basis, we inventoried \$3,082,000 of program costs incurred in excess of available funding at March 31, 2006 on the Navy 36.5 MW motor contract.

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL**

**CONDITION AND RESULTS OF OPERATIONS (Continued)**

*Deferred tax assets.* We have recorded a full valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. While we consider future taxable income and tax planning strategies in assessing the need for the valuation allowance, if management were to determine that we would be able to realize deferred tax assets in the future in excess of the net recorded amount, an adjustment to the deferred tax asset would increase income in the period such determination was made.

*Goodwill.* Goodwill represents the excess of cost over net assets of acquired businesses that are consolidated. Pursuant to SFAS No. 142 Goodwill and Other Intangible Assets, goodwill is not amortized. In lieu of amortization, we perform an impairment review of our goodwill at least annually or when events and changes in circumstances indicate the need for such a detailed impairment analysis, as prescribed by SFAS No. 142. Goodwill is considered impaired when the carrying value of a reporting unit exceeds its estimated fair value. In assessing the recoverability of goodwill, we make assumptions regarding estimated future cash flows and other factors to determine the fair value of the reporting unit. To date, we have determined that goodwill is not impaired, but we could in the future determine that goodwill is impaired, which would result in a charge to earnings.

**RESULTS OF OPERATIONS**

**Fiscal Years Ended March 31, 2006 and March 31, 2005**

The Company has three reportable business segments SuperMachines, Power Electronic Systems, and AMSC Wires.

The SuperMachines business segment develops and commercializes electric motors, generators, and synchronous condensers based on HTS wire. Its primary focus for motors and generators is on ship propulsion.

The Power Electronic Systems business segment develops and sells power electronic converters and designs, manufactures and sells integrated systems based on those converters for power quality and reliability solutions and for wind farm applications.

The AMSC Wires business segment develops, manufactures and sells HTS wire, including intercompany sales of wire to SuperMachines. The focus of this segment's current development, manufacturing and sales efforts is on HTS wire for power transmission cables, motors, generators, synchronous condensers and specialty electromagnets.

*Revenues*

Total consolidated revenues decreased to \$50,872,000 in fiscal 2006 from \$58,283,000 in fiscal 2005, a decrease of \$7,411,000 or 13%.

<b>Revenues</b>	<b>2006</b>	<b>2005</b>
SuperMachines	\$ 21,664,000	\$ 31,107,000
Power Electronic Systems	15,001,000	15,664,000
AMSC Wires	14,207,000	11,512,000
<b>Total</b>	<b>\$ 50,872,000</b>	<b>\$ 58,283,000</b>

The decrease in total revenues was primarily the result of lower revenues in our SuperMachines business unit, partially offset by higher revenues in AMSC Wires.



**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL****CONDITION AND RESULTS OF OPERATIONS (Continued)**

Revenues in our SuperMachines business unit were \$21,664,000 in fiscal 2006, a decrease of \$9,443,000 or 30% compared to \$31,107,000 in fiscal 2005. The decrease was due to lower revenues on the U.S. Navy's 36.5 MW motor program, which accounted for over 96% of SuperMachines' revenues in each of the last two fiscal years and which is now in the final year of a multi-year contract. Revenues relating to the 36.5 MW motor program were \$20,826,000 in fiscal 2006 compared to \$30,070,000 in fiscal 2005, a decrease of \$9,244,000. This was the result of two factors: the first was a lower level of work performed on the 36.5 MW motor program as a result of the substantial completion of engineering design work and HTS coil fabrication in the prior fiscal year. The second factor contributing to the fiscal 2006 decrease in revenues on the 36.5 MW motor program was a limitation on funding from the Navy at March 31, 2006 which limited the amount of revenue we were able to recognize. Due to this funding limitation, \$3,082,000 of program costs incurred in excess of the available funding were recorded as inventory as of March 31, 2006. These program costs were inventoried because future funding sufficient to cover these deferred costs was deemed probable. On April 26, 2006, such funding was received via a contract modification from the Navy which provided an additional \$13,344,000 of funding, thereby fully-funding the program at \$90,150,000 and converting it from a cost-plus-incentive-fee contract to a firm-fixed-price contract. All of the \$13,344,000 of additional funding received in April 2006 is expected to be recognized as revenue in fiscal 2007 as the contract enters the final assembly and test phase and winds down to its estimated motor delivery date of September 2006 to the U.S. Navy. We are pursuing additional contracts for HTS motors and generators for fiscal 2007 and beyond with the U.S. Navy and our strategic business alliance partner, Northrop Grumman Marine Systems, among others. However, we expect SuperMachines revenues to be relatively flat to lower in fiscal 2007, compared to fiscal 2006.

Revenues in Power Electronic Systems decreased by \$663,000 or 4% to \$15,001,000 in fiscal 2006 from \$15,664,000 in fiscal 2005. This decrease occurred as a result of a lower level of service and maintenance revenues in fiscal 2006, which decreased by \$706,000 to \$617,000 in fiscal 2006 compared to \$1,323,000 in fiscal 2005, which included a higher amount of product upgrades. D-VAR®/PQ-IVR system sales in fiscal 2006 increased slightly to \$14,317,000 in fiscal 2006 from \$14,107,000 in fiscal 2005, as a higher volume of system sales to utilities and wind farms was largely offset by lower sales to industrial customers, such as semiconductor manufacturers. Revenues relating to development contracts also decreased to \$67,000 in fiscal 2006 from \$234,000 in fiscal 2005, contributing to the overall decrease in revenues at Power Electronic Systems. Based on the orders in backlog as of March 31, 2006 and new orders received in the first quarter of fiscal 2007, we expect revenue growth of approximately 35% at Power Electronic Systems in fiscal 2007, compared to fiscal 2006.

Revenues in our AMSC Wires business unit were \$14,207,000 in fiscal 2006 compared to \$11,512,000 in fiscal 2005, an increase of \$2,695,000 or 23%. This was driven by a \$3,685,000 increase in work performed on the DOE project to install an HTS power cable in the transmission grid of the Long Island Power Authority (LIPA), partially offset by a \$476,000 decrease in contract revenues and a \$514,000 decrease in HTS wire sales in fiscal 2006 compared to fiscal 2005.

LIPA project revenues increased to \$9,684,000 in fiscal 2006 from \$5,999,000 in fiscal 2005 as a result of the delivery of substantially all of the 1G HTS wire required for the project in the second and third quarters of fiscal 2006. Contract revenues decreased to \$1,281,000 in fiscal 2006 from \$1,757,000 in fiscal 2005, due to a lower level of work performed in fiscal 2006 on a 2G research contract awarded by the Defense Advanced Research Projects Agency (DARPA) in June 2004. HTS wire sales (including \$147,000 for 2G HTS wire sales in fiscal 2006) to customers other than LIPA decreased to \$3,242,000 in fiscal 2006 from \$3,756,000 in fiscal 2005, due primarily to a reduction in the average selling price for our 1G HTS wire. AMSC sold approximately 150,000 meters of 1G HTS wire to customers other than LIPA and SuperMachines in both fiscal 2006 and fiscal 2005. Overall, including wire deliveries to the LIPA cable project and intercompany shipments to



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SuperMachines, the AMSC Wires business unit delivered approximately 331,000 meters (or 205 miles) of 1G HTS wire, and over 2,700 meters of 2G HTS wire in fiscal 2006, compared to approximately 389,000 meters (or 242 miles) of 1G HTS wire in the prior fiscal year.

We expect revenues in AMSC Wires to be lower in fiscal 2007 than fiscal 2006 as we complete installation of the LIPA cable project in fiscal 2007 and as we install, test, and qualify capital equipment for our lower-cost 2G HTS wire, whose sales are currently constrained by manufacturing capacity. We expect to sell limited quantities of 2G HTS wire while we complete the scale-up of the pilot production line, which we expect to be operational at the end of calendar year 2007, and we will continue to meet near-term customer demand for HTS wire from the more than 400,000 meters of 1G HTS wire inventory we have available. Backlog on the LIPA cable contract as of March 31, 2006 was at \$4,144,000.

*Cost-Sharing Funding*

In addition to amounts reported as revenues, we also received funding of \$1,644,000 in fiscal 2006 under U.S. government cost-sharing agreements with the U.S. Air Force, DOE, and the Department of Commerce, compared to \$2,044,000 in fiscal 2005, a decrease of \$400,000 or 20%. The decline in funding was due to the conclusion early in fiscal 2006 of a cost-sharing program with the Department of Commerce. All of our cost-sharing agreements provide funding in support of 2G wire development work being done in the AMSC Wires business unit. We anticipate that a portion of our funding in the future will continue to come from cost-sharing agreements as we continue to develop joint programs with government agencies, such as the \$5,350,000 follow-on Title III contract awarded to us by the Air Force in December 2005. Backlog as of March 31, 2006 relating to cost-sharing agreements was \$5,082,000. As required by government contract accounting guidelines, funding from government cost-sharing agreements is recorded as an offset to research and development and selling, general and administrative expenses, rather than as revenue.

*Costs and expenses*

Total costs and expenses for the year ended March 31, 2006 were \$84,359,000 compared to \$78,632,000 for the prior year, a \$5,727,000 increase driven primarily by a long-lived asset impairment charge of \$4,960,000 recorded in the fourth quarter of fiscal 2006 related to our March 2006 decision to complete the transition of our wire manufacturing operation from 1G to 2G HTS wire. In connection with the completion of our transition from 1G to 2G HTS wire, we also recorded a 1G wire inventory write-down of \$1,591,000, which is included in Costs of revenue product sales and prototype development contracts. Furthermore, we incurred a higher level of internally-funded research and development (R&D) spending in fiscal 2006 at AMSC Wires (particularly on 2G wire development and scale-up activities), SuperMachines and Power Electronic Systems. Fiscal 2005 selling, general and administrative (SG&A) expenses included a \$2,653,000 charge recorded in the fourth quarter related to a litigation settlement with TM Capital Corp., a past financial advisor to us.

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Costs of revenue contract revenue decreased to \$1,511,000 in fiscal 2006 from \$1,702,000 in fiscal 2005 as contract revenues decreased slightly to \$1,712,000 in fiscal 2006 from \$1,757,000 in fiscal 2005.

Costs of revenue product sales and prototype development contracts decreased by \$4,234,000 to \$51,938,000 in fiscal 2006 from \$56,172,000 in fiscal 2005 due to a \$10,018,000 decrease in costs of revenue at SuperMachines as a result of the lower level of work performed on the 36.5 MW motor program. Although revenues in the Power Electronic Systems business unit decreased slightly to \$15,001,000 in fiscal 2006 from \$15,664,000 in fiscal 2005, costs of revenue at Power Electronic Systems increased by \$1,900,000 in fiscal 2006 compared to fiscal 2005 due to the lower gross margins associated with the mix of product shipped (a higher

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percentage of our fiscal 2006 product shipments consisted of transformers, capacitor banks, and other peripheral equipment which yield lower gross margins). At the AMSC Wires business unit, costs of revenue increased by \$3,884,000 in connection with the higher LIPA project sales and a \$1,591,000 write-down of a portion of our 1G HTS wire inventory to net realizable value (based on an analysis of existing backlog and anticipated demand for our 1G wire, compared to the available 1G wire supply).

*Research and development*

A portion of our R&D expenditures related to externally funded development contracts has been classified as costs of revenue (rather than as R&D expenses). Additionally, a portion of R&D expenses was offset by cost-sharing funding. Our R&D expenditures are summarized as follows:

	<u>2006</u>	<u>2005</u>
R&D expenses per Consolidated Statements of Operations	\$ 14,961,000	\$ 9,037,000
R&D expenditures classified as Costs of revenue	29,720,000	32,991,000
R&D expenditures offset by cost-sharing funding	868,000	1,276,000
<b>Aggregated R&amp;D expenses</b>	<b>\$ 45,549,000</b>	<b>\$ 43,304,000</b>

R&D expenses (exclusive of amounts classified as costs of revenue and amounts offset by cost-sharing funding) increased by \$5,924,000 to \$14,961,000 in fiscal 2006 from \$9,037,000 in fiscal 2005 primarily as a result of two factors: a lower percentage of the R&D cost incurred was classified as costs of revenue due to the lower level of funded prototype development contract work in SuperMachines and a higher level of internally-funded R&D spending was incurred in AMSC Wires (primarily focused on 2G wire development and scale-up activities), SuperMachines, and Power Electronic Systems.

Aggregated R&D expenses, which include amounts classified as costs of revenue and amounts offset by cost-sharing funding, increased by \$2,245,000 to \$45,549,000 in fiscal 2006 from \$43,304,000 in fiscal 2005, as a result of the aforementioned higher levels of internal R&D expenditures in all three business units, partially offset by a lower level of externally-funded R&D spending at SuperMachines. Aggregated R&D expenses were reduced by \$2,234,000 in fiscal 2006 as a result of the deferral of certain program-specific costs in inventory in connection with the March 31, 2006 limitation of funding from the Navy as of March 31, 2006 on the 36.5 MW motor program.

*Selling, general, and administrative*

A portion of the SG&A expenditures related to externally funded development contracts has been classified as costs of revenue (rather than as SG&A expenses). Additionally, a portion of SG&A expenses was offset by cost-sharing funding. Our SG&A expenditures are summarized as follows:

	<u>2006</u>	<u>2005</u>
SG&A expenses per Consolidated Statements of Operations	\$ 10,989,000	\$ 11,721,000
SG&A expenditures classified as Costs of revenue	4,444,000	8,257,000
SG&A expenditures offset by cost-sharing funding	776,000	768,000
	<u>                    </u>	<u>                    </u>
Aggregated SG&A expenses	<u>\$ 16,209,000</u>	<u>\$ 20,746,000</u>

SG&A expenses (exclusive of amounts classified as costs of revenue and amounts offset by cost-sharing funding) decreased by \$732,000 to \$10,989,000 in fiscal 2006 from \$11,721,000 in fiscal 2005. This decrease in fiscal 2006 SG&A expenses was primarily the result of the prior-year charges associated with a \$2,653,000

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litigation settlement with TM Capital accrued in the fourth quarter of fiscal 2005 and \$520,000 of legal expenses incurred in fiscal 2005 in connection with the lawsuit. This decrease in SG&A expenses was partially offset by a lower percentage of SG&A expenditures being classified as costs of revenue in connection with the lower level of prototype development contract work in SuperMachines.

Aggregated SG&A expenses, which include amounts classified as costs of revenue and amounts offset by cost-sharing funding, decreased by \$4,537,000 to \$16,209,000 in fiscal 2006 from \$20,746,000 in fiscal 2005. In addition to the \$2,653,000 cost associated with the TM Capital litigation settlement and \$520,000 of legal expenses incurred in connection with the lawsuit in the prior year, the remainder of the decrease in Aggregated SG&A expenses was due primarily to a lower level of management bonus payouts in fiscal 2006, compared to fiscal 2005. Also, Aggregated SG&A expenses were reduced by \$848,000 in fiscal 2006 as a result of the deferral of certain program-specific costs to inventory in connection with the limitation of funding from the Navy as of March 31, 2006 on the 36.5 MW motor program.

We present Aggregated R&D and Aggregated SG&A expenses, which are non-GAAP measures, because we believe this presentation provides useful information on our aggregate R&D and SG&A spending and because R&D and SG&A expenses as reported on the Consolidated Statements of Operations have been and may in the future be subject to significant fluctuations solely as a result of changes in the level of externally funded contract development work, resulting in significant changes in the amount of the costs recorded as costs of revenue rather than as R&D and SG&A expenses, as discussed above.

*Operating profit/(loss)*

<b>Operating Profit/Loss</b>	<b>2006</b>	<b>2005</b>
SuperMachines	\$ (708,000)	\$ 412,000
Power Electronic Systems	(3,683,000)	66,000
AMSC Wires	(27,205,000)	(15,886,000)
Unallocated corporate expenses	(1,891,000)	(4,941,000)
<b>Total</b>	<b>\$ (33,487,000)</b>	<b>\$ (20,349,000)</b>

SuperMachines incurred an operating loss of \$708,000 in fiscal 2006 compared to an operating profit of \$412,000 in fiscal 2005 primarily as a result of the lower level of prototype development contract revenues in fiscal 2006, higher internally-funded R&D spending, and lower fees earned on the 36.5 MW cost-plus-incentive-fee contract as a result of subcontractor cost overruns.

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Power Electronic Systems also incurred an operating loss of \$3,683,000 in fiscal 2006 compared to an operating profit of \$66,000 in fiscal 2005 as a result of several factors: lower revenues; higher R&D spending, particularly on the development of a lower-cost, next-generation power electronic converter which is incorporated into our integrated power quality and reliability solutions; and lower gross margins in fiscal 2006 in connection with the mix of product shipped (a higher percentage of our fiscal 2006 product shipments consisted of transformers, capacitor banks, and other peripheral equipment which yield lower gross margins).

The operating loss at AMSC Wires increased to \$27,205,000 in fiscal 2006 from an operating loss of \$15,886,000 in fiscal 2005 as a result of multiple factors: the long-lived 1G asset impairment charge of \$4,960,000 resulting from our March 2006 decision to complete the transition of our HTS wire manufacturing operations from 1G to 2G; a \$1,591,000 write-down to net realizable value of a portion of our 1G HTS wire inventory based on an analysis of existing backlog and anticipated demand for our 1G wire, compared to the available 1G wire supply; the higher level of internally-funded R&D spending on 2G wire development and

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scale-up activities; less manufacturing absorption due to a lower level of 1G HTS wire production beginning in the second quarter of fiscal 2006; and lower margins on both the 1G wire deliveries to the LIPA cable project as well as on sales of 1G HTS wire to other customers due to the lower average selling price in fiscal 2006.

The decrease in Unallocated corporate expenses is related mainly to prior-year legal and litigation settlement costs associated with the TM Capital lawsuit.

*Non-operating expenses/Interest income*

Interest income increased to \$2,610,000 in fiscal 2006 from \$807,000 in fiscal 2005. This increase in interest income primarily reflected higher interest rates available on our investments in fiscal 2006, compared to fiscal 2005, as well as the higher cash and investment balances available for investment as a result of our March 2005 public equity offering of 4,600,000 shares of our common stock that generated net proceeds (after deducting underwriting discounts and commissions, but before deducting offering expenses) of \$45,540,000.

Fees abandoned debt financing were \$0 in fiscal 2006 and \$35,000 in fiscal 2005. The fiscal 2005 fees represented various legal fees and expenses incurred in connection with a debt financing transaction that we decided not to pursue in August 2003 in favor of a public equity offering, which we completed in October 2003.

Other income (expense), net was \$0 in fiscal 2006 compared to \$(82,000) in fiscal 2005, as fiscal 2006 foreign currency losses offset a \$7,000 gain on the revaluation of the warrant for 200,000 shares of our common stock issued in April 2005 to TM Capital Corp., a past financial advisor to us, related to a litigation settlement. The accrued warrant cost will continue to be classified as a current liability in accordance with Emerging Issues Task Force (EITF) Issue No. 00-19 until such time as the warrant is exercised, and will be marked-to-market based primarily on the current price and expected volatility of our common stock as of the end of each reporting period. The warrant was valued at \$946,000 as of March 31, 2006, resulting in a gain of \$7,000 for the year ended March 31, 2006, as compared to the March 31, 2005 warrant valuation of \$953,000.

Based on our latest operating plan, we expect to continue to incur operating losses until at least the end of fiscal year 2009 as we continue to devote significant financial resources to our commercialization efforts, 2G HTS wire scale-up, and ongoing research and development activities.

Please refer to Section 1A, Risk Factors above for a discussion of certain factors that may affect our future results of operations and financial condition.

**Fiscal Years Ended March 31, 2005 and March 31, 2004**

*Revenues*

Total consolidated revenues increased to \$58,283,000 in fiscal 2005 from \$41,309,000 in fiscal 2004, an increase of \$16,974,000 or 41%.

<u>Revenues</u>	<u>2005</u>	<u>2004</u>
SuperMachines	\$ 31,107,000	\$ 26,501,000
Power Electronic Systems	15,664,000	7,012,000
AMSC Wires	11,512,000	7,796,000
<b>Total</b>	<b>\$ 58,283,000</b>	<b>\$ 41,309,000</b>

The increase in total revenues was the result of increases in revenues across all three of our business units.

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SuperMachines recognized revenues of \$31,107,000 in fiscal 2005, an increase of \$4,606,000 or 17% over fiscal 2004 revenues of \$26,501,000. This was the result of an increase in work performed on the 36.5 Megawatt (MW) HTS motor contract with the U.S. Navy, on which revenues were \$30,070,000 and \$24,724,000 for fiscal 2005 and 2004, respectively. The \$5,346,000 increase in revenue on the 36.5 MW motor program was partially offset by a \$895,000 decrease in revenue associated with the U.S. Navy 5 MW motor, which was completed and delivered to the Navy in fiscal 2004 (July 2003). The increase in 36.5 MW motor program revenue in fiscal 2005 was driven by higher HTS wire deliveries and an increase in work performed by various subcontractors, including Northrop Grumman and Ideal Electric Company. Through March 31, 2005, U.S. Navy funding of \$55,986,000 had been allotted to the 36.5 MW contract.

Revenues in Power Electronic Systems increased by \$8,652,000 or 123% to \$15,664,000 in fiscal 2005 compared to \$7,012,000 in fiscal 2004. This increase came as a result of a higher level of D-VAR<sup>®</sup> and PQ-IVR system shipments in fiscal 2005, both for industrial applications, such as semiconductor fabrication, and for wind farm applications in the United States, Europe, and Canada. System sales increased by \$8,227,000 to \$14,107,000 from \$5,880,000 in the prior year, accounting for most of the increase in revenue. Service and maintenance revenue, including product upgrades, also increased by \$1,017,000 to \$1,323,000 in fiscal 2005 from \$306,000 in the prior fiscal year. This was partially offset by a \$592,000 decrease in prototype development contract revenue to \$234,000 in fiscal 2005 from \$826,000 in the prior fiscal year as a result of lower revenues on the U.S. Navy's Power Electronic Building Blocks (PEBB) program, which we substantially completed in fiscal 2004.

Revenues in our AMSC Wires business unit were \$11,512,000 in fiscal 2005 compared to \$7,796,000 in fiscal 2004, an increase of \$3,716,000 or 48%. This was caused by a \$2,371,000 increase in work performed on the DOE project to install an HTS power cable in the transmission grid of LIPA, an \$882,000 increase in contract revenues as a result of work performed on a \$1,800,000 2G research contract, which was awarded by DARPA in June 2004, and a \$463,000 increase in HTS wire sales in fiscal 2005 compared to fiscal 2004. On a year-over-year basis, comparing fiscal 2005 to fiscal 2004, LIPA project revenues increased to \$5,999,000 from \$3,628,000, contract revenues increased to \$1,757,000 from \$875,000, and HTS wire sales increased to \$3,756,000 from \$3,293,000. The AMSC Wires business unit delivered approximately 389,000 meters (or 242 miles) of 1G HTS wire in fiscal 2005, compared to approximately 155,000 meters in the prior fiscal year, but reported HTS wire sales increased by only 14% to \$3,756,000 in fiscal 2005 from \$3,293,000 in the prior year because over half of the 389,000 meters was utilized on the 36.5 MW motor program. The revenue associated with the HTS wire utilized on the 36.5 MW motor program was reported in the SuperMachines business unit.

*Cost-Sharing Funding*

In addition to reported revenues, we also received funding of \$2,044,000 in fiscal 2005 under U.S. government cost-sharing agreements with the Air Force, Department of Commerce, and DOE, compared to \$2,395,000 in fiscal 2004, a decrease of \$351,000 or 15%. All of our cost-sharing agreements provide funding in support of 2G wire development work being done in the AMSC Wires business unit. Backlog as of March 31, 2005 relating to cost-sharing agreements was at \$1,027,000. As required by government contract accounting guidelines, funding from government cost-sharing agreements is recorded as an offset to research and development and selling, general and administrative expenses, rather than as revenue.

*Costs and expenses*

Total costs and expenses for the year ended March 31, 2005 were \$78,632,000 compared to \$66,995,000 for the prior year, an \$11,637,000 increase driven primarily by higher costs of revenue associated with the

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\$16,974,000 increase in revenues. Fiscal 2005 costs and expenses also included a \$2,653,000 charge recorded in the fourth quarter related to a litigation settlement with TM Capital Corp., a past financial advisor to us, which was announced April 4, 2005.

Costs of revenue product sales and prototype development contracts increased by \$12,717,000 to \$56,172,000 in fiscal 2005 from \$43,455,000 in fiscal 2004 in connection with the higher levels of revenue in all three business units. Although revenues in the Power Electronic Systems business unit increased by \$8,652,000 to \$15,664,000 in fiscal 2005 from \$7,012,000 in fiscal 2004, costs of revenue at Power Electronic Systems increased by only \$1,531,000 to \$8,395,000 in fiscal 2005 from \$6,864,000 in fiscal 2004. This was caused by the higher gross margins associated with the increased level of fiscal 2005 product sales at Power Electronic Systems, combined with more favorable gross margin percentages in fiscal 2005 compared to the zero-margin sale of six D-SMES units to American Transmission Company (ATC) in the prior fiscal year in connection with a pre-existing agreement signed in calendar year 1999.

Costs of revenue contract revenue increased to \$1,702,000 for fiscal 2005 compared to \$825,000 in fiscal 2004. Costs of revenue contract revenue increased proportionately with the higher level of contract revenues.

*Research and development*

A portion of our R&D expenditures related to externally funded development contracts has been classified as costs of revenue (rather than as R&D expenses). Additionally, a portion of R&D expenses was offset by cost-sharing funding. Our R&D expenditures are summarized as follows:

	<u>2005</u>	<u>2004</u>
R&D expenses per Consolidated Statements of Operations	\$ 9,037,000	\$ 14,056,000
R&D expenditures classified as Costs of revenue	32,991,000	25,442,000
R&D expenditures offset by cost-sharing funding	1,276,000	1,852,000
<b>Aggregated R&amp;D expenses</b>	<b>\$ 43,304,000</b>	<b>\$ 41,350,000</b>

R&D expenses (exclusive of amounts classified as costs of revenue and amounts offset by cost-sharing funding) decreased by \$5,019,000 to \$9,037,000 in fiscal 2005 from \$14,056,000 in fiscal 2004 primarily as a result of a higher percentage of the R&D costs being classified as costs of revenue in connection with the prototype development contract work in SuperMachines and contract revenue work in AMSC Wires.

Aggregated R&D expenses, which include amounts classified as costs of revenue and amounts offset by cost-sharing funding, increased by \$1,954,000 to \$43,304,000 in fiscal 2005 from \$41,350,000 in fiscal 2004 as a result of increases in subcontractor spending on the 36.5 MW and LIPA programs, partially offset by reduced material purchases on the 36.5 MW program.

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CONDITION AND RESULTS OF OPERATIONS (Continued)***Selling, general, and administrative*

A portion of the SG&A expenditures related to externally funded development contracts has been classified as costs of revenue (rather than as SG&A expenses). Additionally, a portion of SG&A expenses was offset by cost-sharing funding. Our SG&A expenditures are summarized as follows:

	<b>2005</b>	<b>2004</b>
SG&A expenses per Consolidated Statements of Operations	\$ 11,721,000	\$ 8,659,000
SG&A expenditures classified as Costs of revenue	8,257,000	7,395,000
SG&A expenditures offset by cost-sharing funding	768,000	543,000
<b>Aggregated SG&amp;A expenses</b>	<b>\$ 20,746,000</b>	<b>\$ 16,597,000</b>

SG&A expenses (exclusive of amounts classified as costs of revenue and amounts offset by cost-sharing funding) increased by \$3,062,000 to \$11,721,000 in fiscal 2005 from \$8,659,000 in fiscal 2004. This increase was primarily the result of the \$2,653,000 litigation settlement with TM Capital, which we accrued in the fourth quarter of fiscal 2005, \$520,000 of legal expenses incurred in fiscal 2005 in connection with the lawsuit, and increased compensation, travel, insurance, and audit costs, partially offset by a higher amount of SG&A expenditures being classified as costs of revenue in connection with the prototype development contract work in SuperMachines.

Aggregated SG&A expenses, which include amounts classified as costs of revenue and amounts offset by cost-sharing funding, increased by \$4,149,000 to \$20,746,000 in fiscal 2005 from \$16,597,000 in fiscal 2004. In addition to the \$2,653,000 cost associated with the TM Capital litigation settlement and \$520,000 of legal expenses incurred in connection with the lawsuit, the remainder of the increase in Aggregated SG&A expenses was due to the same combination of factors cited above, such as higher compensation, travel, insurance, and audit costs, the last of which related mainly to the cost of complying with the internal control rules promulgated by the SEC under Section 404 of the Sarbanes-Oxley Act.

We present Aggregated R&D and Aggregated SG&A expenses, which are non-GAAP measures, because we believe this presentation provides useful information on our aggregate R&D and SG&A spending and because R&D and SG&A expenses as reported on the Consolidated Statements of Operations have been and may in the future be subject to significant fluctuations solely as a result of changes in the level of externally funded contract development work, resulting in significant changes in the amount of the costs recorded as costs of revenue rather than as R&D and SG&A expenses, as discussed above.

*Operating profit/(loss)*

<b>Operating Profit/Loss</b>	<b>2005</b>	<b>2004</b>
SuperMachines	\$ 412,000	\$ 966,000
Power Electronic Systems	66,000	(6,430,000)
AMSC Wires	(15,886,000)	(18,816,000)
Unallocated corporate expenses	(4,941,000)	(1,406,000)
<b>Total</b>	<b>\$ (20,349,000)</b>	<b>\$ (25,686,000)</b>

The operating profit at SuperMachines decreased to \$412,000 in fiscal 2005 from \$966,000 in fiscal 2004 primarily as a result of lower fees on the 36.5 MW cost-plus-incentive fee contract in connection with higher than anticipated subcontractor costs, which were identified and reflected in the contract cost estimates at completion in the first two quarters of fiscal 2005.



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The improvement in Power Electronic Systems' operating performance to a profit of \$66,000 in fiscal 2005 from a loss of \$6,430,000 in the prior fiscal year was the result of higher gross margins in fiscal 2005 due to increased product sales, as discussed above in costs and expenses.

The operating loss at AMSC Wires improved to \$15,886,000 in fiscal 2005 from an operating loss of \$18,816,000 in fiscal 2004 mainly as a result of the higher business unit revenues and increases in the level of wire utilized on an intercompany basis.

The increase in Unallocated corporate expenses is related mainly to the legal and litigation settlement costs associated with the TM Capital lawsuit.

*Non-operating expenses/Interest income*

Interest income increased to \$807,000 in fiscal 2005 from \$296,000 in fiscal 2004. This increase in interest income reflected higher interest rates available on our investments in fiscal 2005, compared to fiscal 2004, and higher average cash balances available for investment over the course of fiscal 2005, compared to fiscal 2004, as a result of our October 2003 public equity offering of 5,721,250 shares of our common stock that generated net proceeds (after deducting underwriting discounts and commissions, but before deducting offering expenses) of \$51,148,000. The net proceeds of \$45,540,000 from the March 2005 public equity offering of 4,600,000 shares were received near the end of fiscal 2005 and therefore had only a minor positive effect on interest income in fiscal 2005.

Fees abandoned debt financing of \$35,000 in fiscal 2005 and \$1,388,000 in fiscal 2004 represented various fees and expenses incurred in connection with the planned debt financing transaction that we decided not to pursue in August 2003 in favor of a public equity offering, which we completed in October 2003.

*Liquidity and Capital Resources*

At March 31, 2006, we had cash, cash equivalents and marketable securities of \$65,669,000 compared to \$87,581,000 at March 31, 2005, a decrease of \$21,912,000. Our cash and cash equivalents, short-term marketable securities, and long-term marketable securities are classified as follows:

2006

2005

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Cash and cash equivalents	\$ 35,171,000	\$ 38,592,000
Short-term marketable securities	30,498,000	40,629,000
Long-term marketable securities		8,360,000
<b>Total cash, cash equivalents, and short and long-term marketable securities</b>	<b>\$ 65,669,000</b>	<b>\$ 87,581,000</b>

The decrease in cash and cash equivalents to \$35,171,000 at March 31, 2006 from \$38,592,000 at March 31, 2005 was primarily the result of \$19,589,000 of net cash used in operating activities, partially offset by the net sale of \$18,523,000 of marketable securities (excluding unrealized losses).

The \$21,912,000 decrease in the balance of cash, cash equivalents, and marketable securities to \$65,669,000 at March 31, 2006 from \$87,581,000 at March 31, 2005 was the result of \$19,589,000 of net cash used in operating activities and purchases of capital equipment of \$2,994,000, partially offset by proceeds from the issuance of our common stock of \$1,421,000.

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL**

**CONDITION AND RESULTS OF OPERATIONS (Continued)**

The principal uses of cash during the fiscal year ended March 31, 2006 were net losses of \$30,876,000, a \$3,549,000 increase in accounts receivable (due in part to the late-March 2006 timing of revenue-generating system shipments out of Power Electronic Systems), and a \$3,725,000 increase in the inventory balance (due mainly to the 36.5 MW motor deferred program costs of \$3,082,000), partially offset by a \$3,397,000 increase in the accounts payable balance (due to delayed payments to subcontractors in connection with delayed funding from the Navy to April 2006), a non-cash impairment charge of \$4,960,000, a surplus 1G HTS wire inventory write-down of \$1,591,000, and depreciation and amortization of \$7,475,000. Other uses of cash from investing activities included purchases of capital equipment of \$2,994,000, mostly for our 2G pilot production line. This use of cash was partially offset by proceeds from the issuance of common stock of \$1,421,000, derived primarily from the exercise of stock options.

Cash and cash equivalents at March 31, 2006 and March 31, 2005 included a \$750,000 and \$1,000,000 letter of credit, respectively, in favor of the landlord of the building we lease at Two Technology Drive, Westborough, Massachusetts, which was originally established to provide a guarantee of rent when we renewed the lease in 2001. The letter of credit amount was reduced to \$750,000 on June 1, 2005 and will be reduced to \$500,000 on June 1, 2007. The lease will expire in May 2009.

We have generated operating losses since our inception in 1987 and expect to continue incurring losses until at least the end of fiscal 2009. Operating losses for the fiscal years ended March 31, 2006, 2005, and 2004 have contributed to net cash used by operating activities of \$19,589,000, \$9,283,000, and \$17,422,000, respectively, for these periods.

Although our cash requirements fluctuate based on a variety of factors, including customer adoption of our products and our research and development and scale-up efforts to commercialize our products, we believe that our available cash will be sufficient to fund our working capital, capital expenditures, and other cash requirements through at least the end of fiscal 2008.

The equipment cost for the pilot line, which we expect will have a gross production capacity of approximately 720,000 meters per year in December 2007, is expected to be \$12,000,000 to \$14,000,000 by December 2007. The additional capital equipment needed for full commercial production is expected to cost approximately \$25,000,000 to \$30,000,000, and should result in a commercial manufacturing operation with a gross capacity of approximately 8 million meters of wire per year. Our current plan is to have a commercial manufacturing operation that can produce over 2 million meters per year in place by approximately December 2009. We believe we can accelerate this timeline if the market demand for our 2G HTS wire accelerates.

We have potential funding commitments (excluding amounts included in accounts receivable) of approximately \$23,761,000 to be received after March 31, 2006 from government and commercial customers, compared to \$34,206,000 at March 31, 2005. The \$10,445,000 decrease in future funding commitments from March 31, 2005 to March 31, 2006 is associated mainly with the fiscal 2006 revenues recognized on the 36.5 MW motor program and LIPA cable project, as work continues to progress on these multi-year contracts which were originally awarded in February and April of 2003, respectively. These current funding commitments, including \$12,525,000 on U.S. government contracts, are subject to certain standard cancellation provisions. Additionally, several of our government contracts are being funded incrementally, and as such, are subject to the future authorization and appropriation of government funding on an annual basis. We have a history of successful performance under

incrementally-funded contracts with the government.

There were no potential funding commitments as of March 31, 2006 relating to the U.S. Navy 36.5 MW motor contract, as cumulative inception-to-date revenues of \$76,806,000 had been recognized on this program as

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL  
CONDITION AND RESULTS OF OPERATIONS (Continued)**

of March 31, 2006, matching the authorized contract value and incremental funding provided to that point in time of \$76,806,000. However, the Navy approved \$13,344,000 of additional funding via a contract modification on April 26, 2006, which fully-funded the program to a new contract value of \$90,150,000 and converted it from a cost-plus-incentive-fee contract to a firm-fixed-price contract. All of the \$13,344,000 of additional funding received in April 2006 is expected to be recognized as revenue in fiscal 2007 as the contract enters the final assembly and test phase and winds down to its estimated motor delivery date of September 2006 to the U.S. Navy. The \$13,344,000 of new funding on the 36.5 MW motor program is not included in the \$23,761,000 of potential funding commitments as of March 31, 2006.

Of the current commitment amount of \$23,761,000 as of March 31, 2006, approximately 79% is billable to and potentially collectible from our customers within the next 12 months.

The possibility exists that we may pursue acquisition and joint venture opportunities in the future that may affect liquidity and capital resource requirements.

To date, inflation and foreign exchange have not had a material impact on our financial results.

***Off-Balance Sheet Arrangements***

We do not participate in transactions that generate relationships with unconsolidated entities such as special purpose entities, or SPEs.

***Contractual Obligations***

As of March 31, 2006, we are committed to make the following payments under contractual obligations using cash:

<b>Contractual obligations</b>	<b>Payments due by period</b>				
	<b>Total</b>	<b>Less than 1 year</b>	<b>1-3 years</b>	<b>3-5 years</b>	<b>More than 5 years</b>
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	

Operating leases (rent)	\$ 10,833,000	\$ 3,093,000	\$ 5,885,000	\$ 1,553,000	\$ 302,000
Operating leases (other)	176,000	107,000	55,000	14,000	
Purchase obligations (subcontracts)	4,538,000	4,538,000			
Purchase obligations (purchase orders)	9,387,000	9,387,000			
<b>Total contractual cash obligations</b>	<b>\$ 24,934,000</b>	<b>\$ 17,125,000</b>	<b>\$ 5,940,000</b>	<b>\$ 1,567,000</b>	<b>\$ 302,000</b>

Over 84% of the purchase obligations (subcontracts) of \$4,538,000 relate to the U.S. Navy 36.5 MW motor program and the DOE LIPA cable project and would be cancelable in the event of a termination of contract funding by the U.S. government. Purchase obligations (purchase orders) of \$9,387,000 consist of ordinary-course purchase commitments for expense items, inventory and capital equipment, as well as a significant amount of purchase orders for materials and supplies on government-funded programs.

### *New Accounting Pronouncements*

On December 16, 2004 the FASB issued its final standard on accounting for share-based payments, SFAS No. 123R (revised 2004), Share-Based Payment (SFAS 123R), that requires companies to expense the fair value of employee stock options and similar awards. SFAS 123R addresses the accounting for share-based payment

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL**

**CONDITION AND RESULTS OF OPERATIONS (Continued)**

transactions with employees, excluding employee stock ownership plans (ESOPs) and awards made in connection with business combinations. Examples include employee stock purchase plans (ESPPs), stock options, restricted stock, and stock appreciation rights. Under SFAS 123R, the most significant change in practice would be treating the fair value of stock-based payment awards that are within its scope as compensation expense in the income statement beginning on the date that a company grants the awards to employees. The expense would be recognized over the vesting period for each option tranche and adjusted for actual forfeitures that occur before vesting. In March 2005, the SEC issued Staff Accounting Bulletin (SAB) 107. SAB 107 expresses views of the SEC regarding the interaction between SFAS 123R and certain SEC rules and regulations and provides the SEC's views regarding the valuation of share-based payment arrangements for public companies. SFAS 123R and SAB 107 are effective for us in the period beginning April 1, 2006. We are currently assessing the impact the adoption of this standard will have on our financial position and results of operations. The pro forma disclosures previously permitted under SFAS 123 will no longer be an alternative to financial statement recognition. However, these pro forma disclosures provide an indication of what the effect of adopting SFAS 123R would have been on the historical periods presented.

In November 2004, the FASB issued SFAS No. 151, *Inventory Costs—an Amendment of ARB No. 43, Chapter 4*. This accounting standard, which is effective for annual periods beginning after June 15, 2005, requires that abnormal amounts of idle facility expense, freight, handling costs, and wasted materials (spoilage) should be recognized as current-period charges. We do not expect the adoption of SFAS No. 151 to have a material effect on our financial position or results of operations.

In May 2005, FASB issued SFAS No. 154, *Accounting Changes and Error Corrections*. SFAS No. 154 replaces APB No. 20, *Accounting Changes*, and SFAS No. 3, *Reporting Accounting Changes in Interim Financial Statements*, and establishes retrospective application as the required method for reporting a change in accounting principle. SFAS No. 154 provides guidance for determining whether retrospective application of a change in accounting principle is impracticable and for reporting a change when retrospective application is impracticable. The reporting of a correction of an error by restating previously issued financial statements is also addressed. SFAS No. 154 is effective for accounting changes and corrections of errors made in fiscal years beginning after December 15, 2005. We do not anticipate that the adoption of SFAS No. 154 will have a material impact on our consolidated results of operations.

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of

American Superconductor Corporation:

We have completed the integrated audits of American Superconductor Corporation's 2006 and 2005 consolidated financial statements and of its internal control over financial reporting as of March 31, 2006, and an audit of its 2004 consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Our opinions, based on our audits, are presented below.

*Consolidated financial statements and financial statement schedule*

In our opinion, the consolidated financial statements listed in the index appearing under Item 15(a)(1) present fairly, in all material respects, the financial position of American Superconductor Corporation and its subsidiaries at March 31, 2006 and 2005, and the results of their operations and their cash flows for each of the three years in the period ended March 31, 2006 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the index appearing under Item 15(a)(2) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits. We conducted our audits of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit of financial statements includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

*Internal control over financial reporting*

Also, in our opinion, management's assessment, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A, that the Company maintained effective internal control over financial reporting as of March 31, 2006 based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), is fairly stated, in all material respects, based on those criteria. Furthermore, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of March 31, 2006, based on criteria established in *Internal Control - Integrated Framework* issued by the COSO. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express opinions on management's assessment and on the effectiveness of the Company's internal control over financial reporting based on our audit. We conducted our audit of internal control over financial reporting in accordance with the standards of the Public Company Accounting Oversight Board (United States).

Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. An audit of internal control over financial reporting includes obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we consider necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.



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

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

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts

June 14, 2006

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****CONSOLIDATED BALANCE SHEETS**

	<b>March 31,</b>	<b>March 31,</b>
	<b>2006</b>	<b>2005</b>
	<u>          </u>	<u>          </u>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 35,171,181	\$ 38,592,032
Short-term marketable securities	30,497,424	40,628,967
Accounts receivable, net	9,014,035	5,464,726
Inventory	9,006,034	6,872,197
Prepaid expenses and other current assets	901,606	1,121,091
	<u>          </u>	<u>          </u>
Total current assets	84,590,280	92,679,013
Property, plant and equipment:		
Land	4,021,611	4,021,611
Construction in progress building and equipment	1,971,019	311,266
Building	34,286,378	34,101,734
Equipment	40,405,415	42,442,903
Furniture and fixtures	3,341,075	4,048,332
Leasehold improvements	5,988,968	6,182,787
	<u>          </u>	<u>          </u>
	90,014,466	91,108,633
Less: accumulated depreciation	(45,234,899)	(39,769,469)
	<u>          </u>	<u>          </u>
Property, plant and equipment, net	44,779,567	51,339,164
Long-term marketable securities		8,360,222
Goodwill	1,107,735	1,107,735
Other assets	2,992,880	5,430,940
	<u>          </u>	<u>          </u>
Total assets	\$ 133,470,462	\$ 158,917,074
	<u>          </u>	<u>          </u>
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
Current liabilities:		
Accounts payable and accrued expenses	\$ 16,498,373	\$ 13,394,690
Deferred revenue	1,872,126	2,012,030
	<u>          </u>	<u>          </u>
Total current liabilities	18,370,499	15,406,720
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Common stock, \$.01 par value		
Authorized shares-100,000,000; shares issued and outstanding 32,890,264 and 32,545,156 at March 31, 2006 and March 31, 2005, respectively	328,903	325,452
Additional paid-in capital	466,605,479	463,632,864
Deferred compensation	(1,330,393)	(783,930)
Deferred contract costs warrant	(19,564)	(25,584)
Accumulated other comprehensive loss	(105,181)	(135,477)
Accumulated deficit	(350,379,281)	(319,502,971)

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Total stockholders' equity	<u>115,099,963</u>	<u>143,510,354</u>
Total liabilities and stockholders' equity	<u>\$ 133,470,462</u>	<u>\$ 158,917,074</u>

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

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****CONSOLIDATED STATEMENTS OF OPERATIONS**

	Year ended March 31,		
	2006	2005	2004
<b>Revenues:</b>			
Contract revenue	\$ 1,711,830	\$ 1,756,871	\$ 874,735
Product sales and prototype development contracts	49,160,618	56,525,967	40,433,970
<b>Total revenues</b>	<b>50,872,448</b>	<b>58,282,838</b>	<b>41,308,705</b>
<b>Costs and expenses:</b>			
Costs of revenue-contract revenue	1,511,119	1,702,461	825,223
Costs of revenue-product sales and prototype development contracts	51,938,048	56,171,532	43,454,971
Research and development	14,961,060	9,036,619	14,056,035
Selling, general and administrative	10,988,926	11,721,088	8,658,750
Impairment charge	4,959,851		
<b>Total costs and expenses</b>	<b>84,359,004</b>	<b>78,631,700</b>	<b>66,994,979</b>
Operating loss	(33,486,556)	(20,348,862)	(25,686,274)
Interest income	2,610,372	806,713	295,656
Fees abandoned debt financing		(35,193)	(1,387,857)
Other income (expense), net	(126)	(82,438)	44,992
<b>Net loss</b>	<b>\$ (30,876,310)</b>	<b>\$ (19,659,780)</b>	<b>\$ (26,733,483)</b>
<b>Net loss per common share</b>			
Basic and Diluted	\$ (0.94)	\$ (0.70)	\$ (1.10)
<b>Weighted average number of common shares outstanding</b>			
Basic and Diluted	32,685,390	28,214,597	24,196,077

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

**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year ended March 31,		
	2006	2005	2004
<b>Cash flows from operating activities:</b>			
Net loss	\$ (30,876,310)	\$ (19,659,780)	\$ (26,733,483)
<b>Adjustments to reconcile net loss to net cash used in operations:</b>			
Depreciation and amortization	7,475,374	7,784,775	7,289,225
Impairment charge	4,959,851		
Inventory write-down charges	1,591,175		
Loss on disposal of PP&E and abandoned patents	273,900	296,631	128,163
IRL license payment			202,950
Amortization of deferred compensation expense	424,415	400,106	262,078
Amortization of deferred warrant costs	6,020	8,956	53,290
Stock compensation expense	364,686	21,833	358,607
Re-valuation of warrant	(7,080)		
<b>Changes in operating asset and liability accounts :</b>			
Accounts receivable	(3,549,309)	3,101,931	(3,120,650)
Inventory	(3,725,012)	(1,982,803)	3,478,392
Prepaid expenses and other current assets	216,999	(214,050)	371,925
Accounts payable and accrued expenses	3,396,607	1,853,056	1,767,760
Deferred revenue	(139,904)	(893,762)	(1,480,210)
<b>Net cash used in operating activities</b>	<b>(19,588,588)</b>	<b>(9,283,107)</b>	<b>(17,421,953)</b>
<b>Cash flows from investing activities:</b>			
Purchase of property, plant and equipment	(2,993,697)	(1,460,352)	(1,957,208)
Proceeds from the sale of property, plant and equipment	48,854	74,500	115,235
Purchase of marketable securities	(88,932,118)	(79,430,550)	(21,239,246)
Proceeds from the maturity of marketable securities	107,455,055	51,720,097	1,369,686
Increase in other assets	(765,015)	(1,683,642)	(1,614,098)
<b>Net cash provided by (used in) investing activities</b>	<b>14,813,079</b>	<b>(30,779,947)</b>	<b>(23,325,631)</b>
<b>Cash flows from financing activities:</b>			
Net proceeds from secondary public offering	(66,060)	45,105,436	50,649,030
Net proceeds from other issuances of common stock	1,420,718	2,308,413	2,852,039
<b>Net cash provided by financing activities</b>	<b>1,354,658</b>	<b>47,413,849</b>	<b>53,501,069</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>(3,420,851)</b>	<b>7,350,795</b>	<b>12,753,485</b>
Cash and cash equivalents at beginning of period	38,592,032	31,241,237	18,487,752
<b>Cash and cash equivalents at end of period</b>	<b>\$ 35,171,181</b>	<b>\$ 38,592,032</b>	<b>\$ 31,241,237</b>
Noncash issuance of common stock	\$ 1,074,945	\$ 421,939	\$ 823,635

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

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS**

	<b>Year ended March 31,</b>		
	<b>2006</b>	<b>2005</b>	<b>2004</b>
Net loss	\$ (30,876,310)	\$ (19,659,780)	\$ (26,733,483)
Other comprehensive income (loss)			
Foreign currency translation	(876)	590	13,469
Unrealized gains (losses) on investments	31,172	(126,730)	(25,213)
Other comprehensive income (loss)	30,296	(126,140)	(11,744)
Comprehensive loss	\$ (30,846,014)	\$ (19,785,920)	\$ (26,745,227)

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

**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY**

	Common Stock		Additional Paid-in Capital	Deferred Compensation	Deferred Contract Costs- Warrant	Accumulated Other		Total Stockholders Equity
	Number of Shares	Par Value				Comprehensive Income (Loss)	Accumulated Deficit	
Balance at March 31, 2003	21,293,772	\$ 212,938	\$ 361,024,689	\$ (311,563)	\$	\$ 2,407	\$ (273,109,708)	\$ 87,818,763
Exercise of stock options	282,010	2,820	2,621,569					2,624,389
Secondary public offering of common stock	5,721,250	57,212	50,591,818					50,649,030
Issuance of common stock ESPP	90,505	905	226,745					227,650
Issuance of common stock to IRL	15,000	150	202,800					202,950
Deferred compensation	149,750	1,497	650,542	(652,039)				0
Amortization of deferred compensation				262,078				262,078
Stock compensation expense	61,862	619	357,988					358,607
Amortization of deferred warrant costs			53,290					53,290
Unrealized loss on investments						(25,213)		(25,213)
Cumulative translation adjustment						13,469		13,469
Net loss							(26,733,483)	(26,733,483)
Balance at March 31, 2004	27,614,149	\$ 276,141	\$ 415,729,441	\$ (701,524)	\$	\$ (9,337)	\$ (299,843,191)	\$ 115,451,530
Exercise of stock options	275,595	2,757	1,908,097					1,910,854
Secondary public offering of common stock	4,600,000	46,000	45,059,436					45,105,436
Issuance of common stock ESPP	40,637	406	397,153					397,559
Deferred compensation	13,000	130	482,382	(482,512)				
Amortization of deferred compensation				400,106				400,106
Stock compensation expense	1,775	18	21,815					21,833
Deferred contract costs warrant			30,099		(30,099)			
Amortization of deferred warrant costs			4,441		4,515			8,956
Unrealized loss on investments						(126,730)		(126,730)
Cumulative translation adjustment						590		590
Net loss							(19,659,780)	(19,659,780)
Balance at March 31, 2005	32,545,156	\$ 325,452	\$ 463,632,864	\$ (783,930)	\$ (25,584)	\$ (135,477)	\$ (319,502,971)	\$ 143,510,354
Exercise of stock options	143,986	1,440	772,666					774,106
Secondary public offering of common stock			(66,060)					(66,060)
Issuance of common stock ESPP	74,785	748	645,864					646,612
Deferred compensation	66,530	665	970,213	(970,878)				
Amortization of deferred compensation				424,415				424,415
Issuance of stock for fiscal 2005 & fiscal 2006 401(k) match and 2006 employee stock awards	59,807	598	649,932					650,530
					6,020			6,020



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Amortization of deferred warrant costs								
Unrealized loss on investments						31,172		31,172
Cumulative translation adjustment						(876)		(876)
Net loss							(30,876,310)	(30,876,310)
Balance at March 31, 2006	32,890,264	\$ 328,903	\$ 466,605,479	\$ (1,330,393)	\$ (19,564)	\$ (105,181)	\$ (350,379,281)	\$ 115,099,963

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

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**NOTES TO CONSOLIDATED STATEMENTS**

**1. Nature of the Business and Operations**

American Superconductor Corporation (the Company or AMSC) was founded on April 9, 1987. The Company is focused on developing, manufacturing and selling products using two core technologies: high temperature superconductor (HTS) wires and power electronic converters for electric power applications. The Company also assembles superconductor wires and power electronic converters into fully-integrated products, such as HTS ship propulsion motors and dynamic reactive compensation systems, which the Company sells or plans to sell to end users. The Company operates in three business segments AMSC Wires, SuperMachines and Power Electronic Systems.

The Company has generated operating losses since its inception in 1987 and expects to continue incurring losses until at least the end of fiscal 2009. Operating losses for the fiscal years ended March 31, 2006, 2005 and 2004 have contributed to net cash used by operating activities of \$19,588,588, \$9,283,107 and \$17,421,953, respectively, for these periods. The Company's accumulated deficit as of March 31, 2006 was \$350,379,281.

The Company had cash, cash equivalents and short-term marketable securities of \$65,668,605 as of March 31, 2006. To supplement the Company's cash available for operations, as well as for capital expenditures for the scale-up of manufacturing of second generation (2G) wire, the Company issued 4,600,000 shares of its common stock in a public equity offering in March 2005 that raised \$45,540,000 (after deducting underwriting commissions and discounts but before deducting offering expenses).

The Company currently derives a portion of its revenue from research and development contracts. The Company recorded contract revenue related to research and development contracts of \$1,711,830, \$1,756,871 and \$874,735 for the fiscal years ended March 31, 2006, 2005, and 2004, respectively. In addition, the Company recorded prototype development contract revenue on U.S. Navy and other contracts of \$21,169,898, \$31,341,296 and \$27,326,819, which are included under Revenues Product sales and prototype development contracts, for the fiscal years ended March 31, 2006, 2005 and 2004, respectively.

Costs of revenue include research and development (R&D) and selling, general, and administrative (SG&A) expenses that are incurred in the performance of these development contracts. The Company uses a job order cost accounting system to record the direct labor and material costs (as well as apply the relevant overhead and SG&A rates to determine the indirect costs) associated with the various revenue-generating U.S. government contracts on which it recognizes revenue and records costs of revenue.

R&D and SG&A expenses included as costs of revenue were as follows:

**For the fiscal years ended March 31,**

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	<u>2006</u>	<u>2005</u>	<u>2004</u>
Research and development expenses	\$ 29,720,000	\$ 32,991,000	\$ 25,442,000
Selling, general, and administrative expenses	\$ 4,444,000	\$ 8,257,000	\$ 7,395,000

## 2. Summary of Significant Accounting Policies

A summary of the Company's significant accounting policies follows:

### *Basis of Consolidation*

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany balances are eliminated.

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**NOTES TO CONSOLIDATED STATEMENTS (Continued)**

***Cash Equivalents***

The Company considers all highly liquid debt instruments with current maturities of three months or less to be cash equivalents. Cash equivalents consist principally of money market accounts and corporate debt instruments.

***Marketable Securities***

Short-term marketable securities, with current maturities of greater than 3 months but less than 12 months, consist primarily of corporate bonds and other debt securities. Long-term marketable securities, with current maturities of 12 months or more, consist primarily of corporate bonds and other debt securities. The Company determines the appropriate classification of its marketable securities at the time of purchase and re-evaluates such classification as of each balance sheet date, in accordance with Statement of Financial Accounting Standards (SFAS) No. 115, Accounting for Certain Investments in Debt and Equity Securities issued by the Financial Standards Accounting Board (FASB). All marketable securities are considered available-for-sale and are carried at fair value. Fair values are based on quoted market prices. The unrealized gains and losses related to these securities are included in accumulated other comprehensive income (loss). When securities are sold, the cost is determined based on the specific identification method and realized gains and losses are included in investment income. The Company periodically reviews the realizability of each short and long-term marketable security when impairment indicators exist with respect to the security. If an other-than-temporary impairment of value of the security exists, the carrying value of the security is written down to its estimated fair value.

***Accounts Receivable***

The Company's accounts receivable are comprised of amounts owed by government agencies and commercial companies. The Company does not require collateral or other security to support customer receivables.

Due to scheduled billing requirements specified under certain contracts, a portion of the Company's accounts receivable balance at March 31, 2006 and 2005 was unbilled. The Company expects most of the unbilled balance at March 31, 2006 to be billed by the first quarter of the fiscal year ending March 31, 2007. At March 31, 2006, the Company had three customers that represented approximately 24%, 20% and 17% of the total accounts receivable balance. At March 31, 2005, the Company had one customer that represented approximately 70% of the total accounts receivable balance.

***Inventories***

Inventories are stated at the lower of cost (determined on a first-in first-out basis) or market.

***Property, Plant and Equipment***

Property, plant and equipment are carried at cost less accumulated depreciation and amortization. The Company accounts for depreciation and amortization using the straight-line method to allocate the cost of property, plant and equipment over their estimated useful lives as follows:

<u>Asset classification</u>	<u>Estimated useful life</u>
Building	40 years
Process upgrades to the building	10-40 years
Machinery and equipment	3-10 years
Furniture and fixtures	3 years
Leasehold improvements	Shorter of the estimated useful life or the remaining lease term

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**NOTES TO CONSOLIDATED STATEMENTS (Continued)**

Expenditures for maintenance and repairs are expensed as incurred. Upon retirement or other disposition of assets, the costs and related accumulated depreciation are eliminated from the accounts and the resulting gain or loss is reflected in income.

Depreciation expense was \$6,218,040, \$6,548,162 and \$6,313,238 for the fiscal years ended March 31, 2006, 2005, and 2004, respectively.

***Goodwill and Other Intangible Assets***

The Company has intangible assets consisting of goodwill, licenses and patents.

The Company amortizes licenses and patents using the straight-line method over a period of 7 years.

In accordance with SFAS No. 142, *Goodwill and Other Intangible Assets*, the Company does not amortize goodwill. The Company reviews its goodwill at least annually (in the Company's fiscal fourth quarter) or when events or changes in circumstances indicate that the carrying amount of such assets may not be fully recoverable. If the carrying amount of the net tangible and intangible assets in a given reporting unit exceeds the reporting unit's fair value, a detailed impairment loss analysis is performed to calculate the amount of impairment, if any, prescribed by SFAS No. 142. Goodwill of \$1,107,735 at March 31, 2006 and 2005 represents the excess of the purchase price paid for the acquisition of substantially all of the assets of Integrated Electronics, LLC (IE) on June 1, 2000, over the fair value of IE's assets, less amortization incurred prior to the adoption of SFAS No. 142. The goodwill is associated with the Power Electronic Systems segment.

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

The Company periodically evaluates its long-lived assets for potential impairment under SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. The Company performs these evaluations whenever events or circumstances suggest that the carrying amount of an asset or group of assets is not recoverable. The Company's judgments regarding the existence of impairment indicators are based on market and operational performance. Indicators of potential impairment include:

a significant change in the manner in which an asset is used;

a significant decrease in the market value of an asset;

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a significant adverse change in its business or the industry in which it is sold;

a current period operating cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the asset; and

significant advances in the Company's technologies that require changes in the manufacturing process.

If the Company believes an indicator of potential impairment exists, it tests to determine whether impairment recognition criteria in SFAS No. 144 have been met. To analyze a potential impairment, the Company projects undiscounted future cash flows expected to result from the use and eventual disposition of the asset or primary asset in the asset group over its remaining useful life. If these projected cash flows are less than the carrying amount, an impairment loss is recognized in the Consolidated Statements of Operations based on the difference between the carrying value of the asset or asset group and its fair value. Evaluating the impairment requires judgment by the Company's management to estimate future operating results and cash flows. If different estimates were used, the amount and timing of asset impairments could be affected.

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**NOTES TO CONSOLIDATED STATEMENTS (Continued)**

***Revenue Recognition and Deferred Revenue***

For certain arrangements, such as contracts to perform research and development, prototype development contracts and certain product sales, the Company records revenues using the percentage of completion method, measured by the relationship of costs incurred to total estimated contract costs. The Company uses the percentage of completion revenue recognition method when a purchase arrangement meets all of the criteria in Statement of Position 81-1, Accounting for Performance of Construction-Type and Certain Production-Type Contracts. Percentage of completion revenue recognition accounting is predominantly used on long-term prototype development contracts with the U.S. government, such as the 36.5 Megawatt (MW) motor contract with the U.S. Navy. The Company follows this method since reasonably dependable estimates of the revenues and costs applicable to various stages of a contract can be made. However, the ability to reliably estimate total costs at completion is challenging, especially on long-term prototype development contracts, and could result in future changes in contract estimates. Since many contracts extend over a long period of time, revisions in cost and funding estimates during the progress of work have the effect of adjusting earnings applicable to prior-period performance in the current period. Recognized revenues and profit or loss are subject to revisions as the contract progresses to completion. Revisions in profit or loss estimates are charged to income in the period in which the facts that give rise to the revision become known. Some of the Company's contracts contain incentive provisions, based upon performance in relation to established targets, which are recognized in the contract estimates when deemed realizable.

The Company recognizes revenue from other product sales upon customer acceptance, which can occur at the time of delivery, installation or post-installation, depending on contractual terms, provided persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable and collectibility is reasonably assured. When other significant obligations remain after products are delivered, revenue is recognized only after such obligations (including buyback provisions) are fulfilled. Customer deposits received in advance of revenue recognition are recorded as deferred revenue until customer acceptance is received. Deferred revenue also represents the amount billed to and/or collected from commercial and government customers on contracts which permit billings to occur in advance of contract performance/revenue recognition.

For the fiscal year ended March 31, 2006, the Company had three customers that represented approximately 41%, 19% and 12% of total revenue. For the fiscal year ended March 31, 2005, the Company had three customers that represented approximately 53%, 21% and 10% of total revenue. For the fiscal year ended March 31, 2004, the Company had two customers that represented approximately 64% and 14% of total revenue.

***Product Warranty***

The Company generally provides a one-year warranty on its power electronic converters and systems, commencing upon installation. A provision is recorded upon revenue recognition to Costs of revenue product sales and prototype development contracts for estimated warranty expense based on historical experience. The following is a summary of accrued warranty activity:



	For the fiscal years ended March 31,	
	2006	2005
Beginning balance	\$ 479,818	\$ 245,400
Accruals for warranties during the period	563,014	491,000
Settlements during the period	(345,075)	(256,582)
Adjustments relating to preexisting warranties	(134,743)	
Ending Balance	\$ 563,014	\$ 479,818

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**NOTES TO CONSOLIDATED STATEMENTS (Continued)**

***Research and Development Costs***

Research and development costs are expensed as incurred.

***Income Taxes***

The Company accounts for income taxes in accordance with SFAS No. 109, Accounting for Income Taxes. Deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each fiscal year end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce net deferred tax assets to the amount expected to be realized. The Company has provided a valuation allowance against all current or deferred income tax assets because of the net operating losses incurred by the Company since its inception.

***Stock-Based Compensation and Pro Forma Stock-Based Compensation Expense***

The Company applies Accounting Principles Board Opinion (APB) No. 25, Accounting for Stock Issued to Employees, and related interpretations in accounting for its stock-based compensation plans. Accordingly, no accounting recognition is given to stock options granted at fair market value until they are exercised. Upon exercise, net proceeds, including any tax benefits realized, are credited to stockholders' equity.

In October 1995, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 123, Accounting for Stock-Based Compensation, which sets forth a fair-value-based method of recognizing stock-based compensation expense. As permitted by SFAS No. 123, the Company elected to continue to apply APB No. 25 to account for its stock-based compensation plan and apply the disclosure provisions of SFAS No. 123.

Had compensation cost for awards granted under the Company's stock-based compensation plan been determined based on the fair value at the grant dates consistent with the method set forth under SFAS No. 123, as amended by SFAS No. 148, Accounting for Stock-Based Compensation-Transition and Disclosure, the effect on certain financial information of the Company would have been as follows:

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**For the fiscal years ended March 31,**

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	<u>2006</u>	<u>2005</u>	<u>2004</u>
Net loss as reported	\$ (30,876,310)	\$ (19,659,780)	\$ (26,733,483)
Add: Stock compensation expense recorded under APB 25 in the statements of operations	789,101	707,783	620,685
Less: Stock compensation costs, net of tax, had all stock options been recorded at fair value per SFAS 123	(3,824,360)	(3,171,203)	(4,569,832)
Pro forma net loss	<u>\$ (33,911,569)</u>	<u>\$ (22,123,200)</u>	<u>\$ (30,682,630)</u>
Weighted average shares, basic and diluted	32,685,390	28,214,597	24,196,077
Net loss per share, as reported	\$ (0.94)	\$ (0.70)	\$ (1.10)
Net loss per share, pro forma	\$ (1.04)	\$ (0.78)	\$ (1.27)

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## AMERICAN SUPERCONDUCTOR CORPORATION

## NOTES TO CONSOLIDATED STATEMENTS (Continued)

The pro forma amounts include the effects of all activity under the Company's stock-based compensation plans since April 1, 1999. The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions used for grants:

	For the fiscal years ended March 31,		
	2006	2005	2004
Dividend yield	None	None	None
Expected volatility	51%	46%	78%
Risk-free interest rate	4.0%	4.0%	3.0%
Expected life (years)	6.1	6.5	6.5

Weighted average fair value of options granted at fair market value during:

Fiscal 2006	\$ 5.85
Fiscal 2005	\$ 6.65
Fiscal 2004	\$ 3.87

The above amounts may not be indicative of future expense because amounts are recognized over the vesting period and the Company expects it will have additional grants and related activity under these plans in the future.

On April 1, 2006, as discussed in Note 17, the Company will adopt SFAS No. 123R, Share-Based Payment, which requires the Company to measure compensation for all share-based payments at fair value and expense such payments in the statement of operations.

*Computation of Net Loss per Common Share*

Basic earnings per share (EPS) is computed by dividing net earnings (loss) by the weighted-average number of common shares outstanding for the period. Diluted EPS is computed by dividing the net earnings (loss) available to common stockholders by the weighted average number of common shares and dilutive common equivalent shares outstanding during the period, calculated using the treasury stock method. Common equivalent shares include the effect of restricted stock and the exercise of stock options and warrants. For the years ended March 31, 2006, 2005, and 2004, common equivalent shares of 4,678,975, 4,473,161 and 4,879,355, respectively, were not included in the calculation of diluted EPS as they were considered antidilutive.

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The following table reconciles the numerators and denominators of the earnings per share calculation for the fiscal years ended March 31, 2006, 2005 and 2004:

	For the fiscal years ended March 31,		
	2006	2005	2004
<b>Numerator:</b>			
Net loss	\$ (30,876,310)	\$ (19,659,780)	\$ (26,733,483)
<b>Denominator:</b>			
Weighted-average shares of common stock outstanding	32,887,920	28,214,597	24,196,077
Weighted-average shares subject to repurchase	(202,530)		
Shares used in per-share calculation basic and diluted	32,685,390	28,214,597	24,196,077
Net loss per share basic and diluted	\$ (0.94)	\$ (0.70)	\$ (1.10)

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**NOTES TO CONSOLIDATED STATEMENTS (Continued)**

***Foreign Currency Translation***

The functional currency of the Company's foreign subsidiary is the local currency. The assets and liabilities of this operation are translated into U.S. dollars at the exchange rate in effect at the balance sheet date and income and expense items are translated at average rates for the period. Cumulative translation adjustments are excluded from net loss and shown as a separate component of stockholders' equity. Foreign currency transaction gains and losses are included in the net loss and have not been material to date.

***Risks and Uncertainties***

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could materially differ from those estimates and would impact future results of operations and cash flows.

The Company invests its available cash with high-credit, quality financial institutions and invests primarily in investment grade-marketable securities, including, but not limited to, government obligations, repurchase agreements, money market funds and corporate debt instruments.

Several of the Company's government contracts are being funded incrementally, and as such, are subject to the future authorization, appropriation, and availability of government funding. The Company has a history of successful performance under incrementally-funded contracts with the U.S. government and it expects to continue to receive additional contract modifications in fiscal 2007 and beyond as incremental funding is authorized and appropriated by the government.

***Disclosure of Fair Value of Financial Instruments***

The Company's financial instruments mainly consist of cash and cash equivalents, marketable securities, accounts receivable, accounts payable and accrued expenses. The carrying amounts of its cash equivalents and marketable securities, accounts receivable, accounts payable and accrued expenses approximate fair value due to the short-term nature of these instruments.

**3. Short and Long-term Marketable Securities**

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Short and long-term marketable securities at March 31, 2006 and 2005 consisted primarily of corporate debt instruments.

	2006	2005
Aggregate amortized cost	\$ 30,589,112	\$ 49,113,482
Fair value	30,497,424	48,989,189
	\$ (91,688)	\$ (124,293)

Gross unrealized gains for fiscal 2006 and 2005 were \$0 and \$4,525, respectively, and gross unrealized losses for fiscal 2006 and 2005 were \$(91,688) and \$(128,818), respectively. The Company's short and long-term marketable securities are classified as available-for-sale securities and, accordingly, are recorded at amortized cost plus accrued interest which approximates fair value. The difference between amortized cost and fair value is included in stockholders' equity. At March 31, 2006, \$2,513,070 of the investments with gross unrealized losses of \$9,889 had been in a continuous unrealized loss position for more than 12 months.

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

The difference of \$1,433 between the unrealized gain of \$31,172 reported on the Consolidated Statements of Comprehensive Loss for the fiscal year ended March 31, 2006 and the change of \$32,605 to \$(91,688) from \$(124,293) in the unrealized losses on short and long-term marketable securities reported above related to the change in the unrealized losses on securities with current maturities of three months or less that are classified as cash equivalents.

**4. Accounts Receivable**

Accounts receivable at March 31, 2006 and 2005 consisted of the following:

	<u>2006</u>	<u>2005</u>
Accounts receivable (billed)	\$ 5,148,407	\$ 3,603,537
Accounts receivable (unbilled)	3,865,628	1,908,512
Less: Allowance for doubtful accounts		(47,323)
Net accounts receivable	<u>\$ 9,014,035</u>	<u>\$ 5,464,726</u>

The Company recorded a \$47,323 allowance for doubtful accounts provision in fiscal 2005. This was included in selling, general and administrative expense.

**5. Inventories**

Inventories at March 31, 2006 and 2005 consisted of the following:

	<u>2006</u>	<u>2005</u>
Raw materials	\$ 948,422	\$ 1,092,263
Work-in-progress	2,202,152	4,398,901
Finished goods	2,773,413	1,381,033
Deferred program costs	3,082,047	



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Net inventory	\$ 9,006,034	\$ 6,872,197
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Deferred program costs of \$3,082,047 represent costs incurred in excess of approved funding as of March 31, 2006 on a program to build a 36.5 megawatt (MW) motor for the U.S. Navy. These program costs were inventoried because future funding sufficient to cover these deferred costs was deemed probable. On April 26, 2006, such funding was received via a contract modification from the Navy which provided \$13,344,000 of funding.

During the fourth quarter of fiscal 2006, in connection with the completion of the transition from first generation (1G) to second generation (2G) HTS wire, the Company recorded a 1G wire inventory write-down to net realizable value of \$1,591,175 to adjust the inventory value for surplus inventory as a result of future forecasted demand.

Finished goods inventory includes the cost of products shipped to customers on contracts for which revenue is deferred until final customer acceptance.

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)****6. Other Assets**

Other assets at March 31, 2006 and 2005 consisted of the following:

	2006			2005		
	Gross Amount	Accumulated Amortization	Net Book Value	Gross Amount	Accumulated Amortization	Net Book Value
Licenses	\$ 1,633,604	\$ (1,555,628)	\$ 77,976	\$ 2,853,247	\$ (1,220,509)	\$ 1,632,738
Patents	6,070,212	(3,214,358)	2,855,854	6,573,935	(2,840,864)	3,733,071
Deposits	59,050		59,050	65,131		65,131
Other assets, net	\$ 7,762,866	\$ (4,769,986)	\$ 2,992,880	\$ 9,492,313	\$ (4,061,373)	\$ 5,430,940

The Company recorded patent and license amortization expense of \$1,257,334, \$1,236,613 and \$975,987 for fiscal years 2006, 2005 and 2004, respectively. There were no abandoned licenses in fiscal 2006 or fiscal 2005. The gross value of abandoned patents was \$452,877 and \$275,517 in fiscal 2006 and 2005, respectively. The accumulated amortization on these abandonments was \$164,915 and \$108,936 for fiscal 2006 and 2005, respectively, resulting in a net abandonment-related expense of \$287,962 and \$166,580 for fiscal 2006 and 2005, respectively.

During the fourth quarter of fiscal 2006, the Company impaired and wrote-down certain 1G patents and licenses that had no alternative use as a result of the management decision to complete the transition from 1G to 2G HTS wire. The impairment charge related to the 1G patents and licenses was \$438,136 and \$1,219,643, respectively.

Amortization expense for the next five years consists of the following:

	For the fiscal years ended March 31,					
	2007	2008	2009	2010	2011	Total
Licenses	\$ 59,226	\$ 14,583	\$ 4,167	\$	\$	\$ 77,976
Patents	771,475	759,883	561,881	307,628	204,213	2,605,080

\$ 830,701	\$ 774,466	\$ 566,048	\$ 307,628	\$ 204,213	\$ 2,683,056
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## 7. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses at March 31, 2006 and 2005 consisted of the following:

	2006	2005
Accounts payable	\$ 7,758,543	\$ 3,719,644
Accrued expenses	2,482,621	3,795,329
Accrued subcontractor program costs	3,869,351	1,279,371
Accrued litigation costs (including warrants)	946,260	2,653,340
Accrued vacation	881,444	791,135
Accrued management bonus	558,681	921,898
Accrued employee stock purchase plan	1,473	233,973
	<u>\$ 16,498,373</u>	<u>\$ 13,394,690</u>

Accrued expenses at March 31, 2005 included \$2,653,340 of litigation costs related to the TM Capital settlement, consisting of a \$1,700,000 cash payment made on April 5, 2005 and a \$953,340 accrued liability

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## AMERICAN SUPERCONDUCTOR CORPORATION

## NOTES TO CONSOLIDATED STATEMENTS (Continued)

relating to warrants issued in April 2005 for 200,000 shares of common stock. At March 31, 2006, the TM Capital warrant was re-valued at \$946,260 using the Black-Scholes valuation model. See Note 10 Commitments and Contingencies.

**8. Income Taxes**

The reconciliation between the statutory federal income tax rate and the Company's effective income tax rate is shown below.

	For the Years Ended March 31,		
	2006	2005	2004
Statutory federal income tax rate	-34%	-34%	-34%
State income taxes, net federal benefit	-6%	-8%	-7%
Nondeductible expenses	2%	0%	0%
Research & development credit	-1%	-3%	-1%
Valuation allowance	39%	45%	42%
Effective income tax rate	0%	0%	0%

The principal components of the Company's deferred tax assets and liabilities were the following:

	For the Years Ended March 31,	
	2006	2005
Deferred tax assets and (liabilities):		
Net operating loss carryforward	\$ 124,935,000	\$ 116,136,000
Research and development and other credits	5,698,000	7,164,000
Accruals and reserves	4,653,000	6,270,000
Fixed assets and intangibles	10,745,000	10,254,000
Other	585,000	491,000
Valuation allowance	(146,616,000)	(140,315,000)
Net	\$	\$

At March 31, 2006 the Company had net operating loss carryforwards for federal and state income tax purposes of approximately \$328,578,000 and \$210,829,000, respectively, which expire in fiscal years ending 2007 through 2026. This includes approximately \$10,149,000 of acquired net operating losses from Superconductivity, Inc. (SI) which expire in the fiscal years ending 2007 through 2012, and their utilization by the Company will be subject to annual limitations. SI was acquired by the Company on April 8, 1997 through the merger of a wholly-owned subsidiary of the Company into SI.

The Company has recorded a deferred tax asset of approximately \$13,636,000 reflecting the benefit of deductions from the exercise of stock options. This deferred tax asset has been fully reserved since it is more likely than not that the tax benefit from the exercise of stock options will not be realized. The benefit from this \$13,636,000 will be recorded as a credit to additional paid-in capital when realized. Research and development and other credit carryforwards amounting to approximately \$3,997,000 and \$2,576,000 are available to offset federal and state income taxes, respectively, and will expire in fiscal years ending 2007 through 2026. Under current tax law, the utilization of net operating loss and research and development and other tax credit carryforwards may be subject to limitations in the event of certain changes in ownership.

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)****9. Stockholders' Equity***The Offerings*

In March 2005 the Company completed a public offering of 4,600,000 shares of its common stock and received net proceeds (after the underwriters discount but before deducting offering expenses) of \$45,540,000.

In October 2003 the Company completed a public offering of 5,721,250 shares of its common stock and received net proceeds (after the underwriters discount but before deducting offering expenses) of \$51,147,975.

*Stock Compensation*

The value of the common stock issued in connection with the Company's 401(k) Match and Employee Stock Award programs, reported in the Statement of Stockholders' Equity for the last three fiscal years, was as follows:

	<b>For the fiscal years ended March 31,</b>		
	<b>2006</b>	<b>2005</b>	<b>2004</b>
401(k) Match	\$ 361,253	\$ *	\$ 339,203
Employee Stock Awards	3,433	21,833	19,404
	<b>\$ 364,686</b>	<b>\$ 21,833</b>	<b>\$ 358,607</b>

\* In April 2005, the Company issued 21,145 shares related to the 401(k) match and recorded \$285,844 in stock compensation expense. The Company accrued the cost of the 401(k) match contributions throughout fiscal 2005 even though no shares were issued to cover the liability until April 2005. See Note 12 Employee Benefits Plans.

*Stock-Based Compensation Plans*

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The Company has seven stock option plans including three Board of Directors Plans. The stock option plans (the Plans) include the 1987 Stock Plan (the 1987 Plan), the 1993 Stock Option Plan (the 1993 Plan), the 1996 Stock Incentive Plan (the 1996 Plan), the 1991 Director Stock Option Plan (the 1991 Director Plan), the 1994 Director Stock Option Plan (the 1994 Director Plan), the Second Amended and Restated 1997 Director Stock Option Plan (the 1997 Director Plan) and the 2004 Stock Incentive Plan (the 2004 Plan).

### *Restricted Stock*

The Board of Directors authorized the issuance of restricted stock to certain officers and employees. The shares are subject to restrictions on transfers and repurchase rights in favor of the Company; the restriction on transfers and repurchase rights can be removed upon meeting certain corporate performance targets or at the end of the vesting period. Restricted stock activity is summarized in the following table:

<u>Fiscal Year</u>	<b>For the fiscal years ended March 31,</b>					
	<b>Unvested Shares Issued</b>	<b>Fair Market Value at Grant Date</b>	<b>2006</b>		<b>2005</b>	<b>2004</b>
			<b>Compensation Expense</b>	<b>Recoveries due to Forfeited Shares</b>	<b>Compensation Expense</b>	<b>Compensation Expense</b>
2000	74,000	\$ 636,400	\$	\$	\$ 75,184	\$ 75,184
2003	31,000	193,440	24,181	(34,927)	32,244	32,244
2004	153,500	650,812	34,029	(32,630)	216,660	154,650
2005	55,750	481,812	82,866		76,018	
2006	194,780	1,579,781	393,446	(42,550)		
			\$ 534,522	\$ (110,107)	\$ 400,106	\$ 262,078

**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

At March 31, 2006, there was \$1,330,393 of unrecognized compensation cost expected to be recognized in future years.

Additionally, the Board of Directors authorized options for an additional 175,000 shares related to the acquisition of IE in fiscal 2001. All options issued under the IE plan are nonqualified. The Plans are administered by the Compensation Committee of the Board of Directors and permit the Company to sell or award common stock or to grant stock options for the purchase of common stock.

The Plans provide for the issuance of incentive stock options and non-qualified stock options to purchase the Company's common stock. In the case of incentive stock options, the exercise price shall be equal to at least the fair market value of the common stock, as determined by the Board of Directors, on the date of grant. The 1991, 1994 and 1997 Director Plans are stock option plans for members of the Board of Directors who are not also employees of the Company (outside directors). The 1997 Director Plan provides for the automatic grant of stock options for the purchase of common stock by outside directors at an exercise price equal to fair market value at the grant date. No further grants may be made under the 1987 Plan, the 1991 Director Plan, the 1993 Plan or the 1994 Director Plan, all of which have expired.

Options granted under the Plans, other than the Amended and Restated 1997 Director Stock Option Plan, generally become exercisable in equal annual increments over a three, four or five year period and expire 10 years from the date of grant or from two to three months after termination of employment.

The following table summarizes information about stock options and unvested restricted stock outstanding at March 31, 2006:

Range of Exercise Price	Outstanding			Exercisable	
	Number Outstanding at March 31, 2006	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable at March 31, 2006	Weighted Average Exercise Price
\$ 0.00 - 5.89	684,695	6.9	\$ 2.46	275,959	\$ 3.59
5.89 - 11.78	1,807,190	5.5	9.80	1,209,734	10.05
11.78 - 17.66	983,090	5.4	13.22	641,535	13.09
17.66 - 23.55	8,000	0.0	20.80	8,000	20.80
23.55 - 29.44	401,000	4.0	25.64	401,000	25.64
29.44 - 35.33	750,000	4.3	32.56	750,000	32.56
35.33 - 41.21	5,000	4.4	40.75	5,000	40.75
41.21 - 58.88	40,000	3.9	58.88	40,000	58.88
\$ 0.00 - 58.88	4,678,975	5.4	\$ 14.92	3,331,228	\$ 17.70



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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

The following table summarizes the information concerning currently outstanding and exercisable options and unvested restricted stock:

	Options/ Shares	Weighted average Exercise Price	Number Exercisable
Outstanding at March 31, 2003	4,669,915	\$ 17.77	2,656,323
Granted at fair value	880,150	4.49	
Granted below fair value	153,500	.01	
Exercised	(282,010)	9.31	
Canceled	(542,200)	16.20	
	<hr/>	<hr/>	
Outstanding at March 31, 2004	4,879,355	15.48	2,750,319
Granted at fair value	518,975	12.83	
Granted below fair value	55,750	.01	
Exercised	(275,595)	6.93	
Restricted stock vested	(56,875)	.01	
Canceled	(648,449)	17.73	
	<hr/>	<hr/>	
Outstanding at March 31, 2005	4,473,161	15.37	2,822,954
Granted at fair value	768,950	9.63	
Granted below fair value	394,780	.01	
Exercised	(147,146)	5.40	
Restricted stock vested	(93,750)	.01	
Canceled	(717,020)	10.43	
	<hr/>	<hr/>	
Outstanding at March 31, 2006	4,678,975	\$ 14.92	3,331,228
	<hr/>	<hr/>	
Available for grant at March 31, 2006:	2,602,189		
	<hr/>		

**Stock Purchase Warrants**

The Company recorded an increase to additional paid-in capital and a corresponding charge to deferred warrant costs of approximately \$30,099 in June 2004 related to the issuance of stock purchase warrants to UT-Battelle, LLC (UT-Battelle) for 5,000 shares of common stock at an exercise price of \$13.68 per share which become exercisable over a five-year period following the date of grant. These warrants were granted in exchange for a reduction in annual minimum royalty payments to UT-Battelle, which manages the Oak Ridge National Laboratory under a contract from the U.S. Department of Energy. Expense related to these warrants was approximately \$6,020 and \$4,515 for the fiscal years ended 2006 and 2005, respectively.

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In March 1996, the Company entered into a strategic alliance with EPRI to develop and commercialize a coated conductor composite HTS wire. In connection with this agreement, the Company granted warrants to EPRI for 100,000 shares of common stock (87,500 of which have been exercised to date) at \$14.00 per share and for an additional 110,000 shares of common stock (41,250 of which have been exercised to date) at \$13.94 per share.

In addition, the Company also granted a warrant to TM Capital in April 2005. See Note 10.

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

Warrant issuances are summarized in the following table:

<b>Warrant Holder</b>	<b>Issue Date</b>	<b>Exercise Price</b>	<b>Shares Issued</b>	<b>Shares Exercised as of March 31, 2006</b>	<b>Vesting Period</b>	<b>Expiration Date</b>
EPRI	03/26/1996	\$ 14.00	100,000	87,500	5 years	03/26/2006
EPRI	03/04/1998	\$ 13.94	110,000	41,250	5 years	03/04/2008
UT-Battelle	06/23/2004	\$ 13.68	5,000		5 years	06/23/2014
TM Capital	04/04/2005	\$ 9.50	200,000		Immediate	04/04/2010

**10. Commitments and Contingencies**

Under Delaware law, the Company is required to indemnify its officers and directors for liabilities incurred under certain circumstances. The term of the indemnification period is for the officer's or director's lifetime. The maximum potential amount of future payments the Company could be required to make is unlimited; however, the Company has a Director and Officer insurance policy that limits its indemnification exposure and enables it to recover a portion of any future amounts paid. As a result of its insurance policy coverage, the Company believes its indemnification exposure is minimal. These indemnification obligations were grandfathered under the provisions of FASB Interpretation No. (FIN) 45 as they were in effect prior to March 31, 2003. Accordingly, the Company has no liabilities recorded under FIN No. 45 as of March 31, 2006 or 2005.

The Company received notice on November 5, 2003 of a lawsuit filed against it on October 28, 2003 in the Court of Chancery of the State of Delaware in and for New Castle County by TM Capital Corp. (TM Capital), a past financial advisor to the Company, under which TM Capital claimed to be entitled to cash and equity compensation with respect to the Company's October 2003 public equity offering.

On April 4, 2005, the Company and TM Capital agreed to resolve all claims between them and entered into a settlement agreement that provides for, among other things, the April 2005 cash payment by the Company to TM Capital of \$1,700,000 and the April 2005 issuance by the Company to TM Capital of a common stock purchase warrant for 200,000 shares of the Company's common stock, exercisable for a five-year term, with an exercise price of \$9.50 per share (the Warrant). The Company valued the Warrant at \$953,340 as of March 31, 2005 using the Black-Scholes valuation model.

The Company and TM Capital also entered into a registration rights agreement wherein the Company agreed to register for public resale the shares of the Company's common stock issuable upon exercise of the Warrant. In connection with the settlement, the Company recorded the liability on its balance sheet as of March 31, 2005 and SG&A expense of \$2,653,340 in its Statement of Operations for the year ended March 31, 2005.

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The accrued warrant cost will continue to be classified as a current liability in accordance with Emerging Issues Task Force (EITF) Issue No. 00-19 until such time as the Warrant is exercised, and will be marked-to-market based primarily on the current price and expected volatility of the Company's common stock as of the end of each reporting period. The Warrant was re-valued at \$946,260 as of March 31, 2006, resulting in a gain of \$7,080 for the fiscal year ended March 31, 2006 (reported in Other income (expense) in the Consolidated Statements of Operations), compared to the March 31, 2005 warrant valuation of \$953,340. The following Black-Scholes assumptions were used:

	<u>March 31, 2006</u>	<u>March 31, 2005</u>
Expected volatility	52.4%	46.7%
Risk-free interest rate	4.63%	4.0%
Expected life (years)	4.0	5.0

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

The Company rents its headquarters in Westborough, Massachusetts, under an operating lease, which expires on May 31, 2009. In October 2000 the Company leased additional facilities in Westborough for the development of electric motor and generator technology under an operating lease that expires on September 30, 2007. The Company also rents an operating facility in Middleton, Wisconsin, under a lease which expires on December 31, 2008, and one facility in New Berlin, Wisconsin, under a lease which expires on September 30, 2011. Under all leases, the Company pays for real estate taxes, certain insurance coverage and operating expenses.

Rent expense under the operating leases mentioned above was as follows:

	<u>2006</u>	<u>2005</u>	<u>2004</u>
Rent expense	\$ 3,153,000	\$ 3,265,000	\$ 3,113,000

Minimum future lease commitments at March 31, 2006 were as follows:

<u>For the years ended March 31,</u>	<u>Total</u>
2007	\$ 3,092,807
2008	3,011,537
2009	2,873,329
2010	951,303
2011 and beyond	904,032
<b>Total</b>	<b>\$ 10,833,008</b>

In September 2001, the Company entered into a standby letter of credit arrangement with a financial institution to provide a guarantee for rent of \$1,000,000 for the Two Technology Drive facility in Westborough, Massachusetts. The letter of credit amount was reduced to \$750,000 at June 1, 2005 and will be reduced to \$500,000 at June 1, 2007. This letter of credit will expire on July 31, 2009.

**11. Cost-Sharing Arrangements**

The Company has entered into several cost-sharing arrangements with various agencies of the United States government. Funds paid to the Company under these agreements are not reported as revenues but are used to directly offset the Company's R&D and SG&A expenses, and to purchase capital equipment. The Company incurred costs offset by funding received under these agreements of \$3,735,000 and \$1,644,000,

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respectively for fiscal 2006, of \$5,571,000 and \$2,044,000, respectively, for fiscal 2005 and of \$6,253,000 and \$2,395,000, respectively, for fiscal 2004. At March 31, 2006, total funding received to date under these agreements was \$20,261,000.

### **12. Employee Benefit Plans**

The Company has implemented a deferred compensation plan (the Plan) under Section 401(k) of the Internal Revenue Code. Any contributions made by the Company to the Plan are discretionary. The Company instituted a stock match program in July 1998 under which the Company matched 25% of the first 4% of eligible contributions to the plan. Effective July 1, 2000 this contribution increased to 25% of the first 6% of eligible contributions. Effective July 1, 2001 this contribution increased to 35% of the first 6% of eligible contributions. The Company recorded expense of \$370,748, \$295,914 and \$329,036 in fiscal years 2006, 2005 and 2004, respectively, and corresponding charges to additional paid-in capital related to this program, except in fiscal

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

2005, when the 401(k) match shares were not issued until April 2005. The Company does not have any other post-retirement or post-employment benefit plans.

The Company instituted an employee stock purchase plan (ESPP) on October 1, 2000. Employees purchase shares at a discount from fair market value every six months; this is a noncompensatory plan and accordingly no expense is recognized by the Company. Shares issued are recorded under Issuance of Common Stock - ESPP in the Consolidated Statements of Stockholders Equity. The ESPP has approximately 134,626 shares available for future issuance.

**13. Impairment of Long-lived Assets**

In the fourth quarter of fiscal 2006, in accordance with SFAS 144, the Company recorded approximately \$5.0 million of charges for the impairment of a group of long-lived assets associated with the AMSC Wires business segment, specifically the Devens 1G wire manufacturing equipment and certain 1G wire-related patents and licenses. The impairment charge was the result of a management decision made in March 2006 to complete the transition of the Company's wire manufacturing operations from 1G to 2G. All 1G HTS wire manufacturing equipment that will not be utilized for 2G HTS wire manufacturing was written down to its estimated fair value as of March 31, 2006 based upon an independent appraisal obtained by the Company.

***Summary of Impairment Charge in Fiscal 2006***

Equipment	\$ 3,302,072
Licenses (Other Assets)	1,219,643
Patents (Other Assets)	438,136
	<hr/>
Total Impairment	\$ 4,959,851
	<hr/>

**14. Business Segment Information**

The Company has three reportable business segments - AMSC Wires, SuperMachines and Power Electronic Systems.

The AMSC Wires business segment develops, manufactures and sells HTS wire, including intercompany sales of wire to SuperMachines. The focus of this segment's current development, manufacturing and sales efforts is on HTS wire for power transmission cables, motors, generators,



synchronous condensers and specialty electromagnets.

The SuperMachines business segment develops and commercializes electric motors, generators, and synchronous condensers based on HTS wire. Its primary focus for motors and generators is on ship propulsion.

The Power Electronic Systems business segment develops and sells power electronic converters and designs, manufactures and sells integrated systems based on those converters for power quality and reliability solutions and for wind farm applications.

A significant majority of the Company's sales are to U.S.-based customers. All of the Company's revenue transactions are originated and fulfilled from the U.S.

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**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

The operating results for the three business segments are as follows:

<b>Revenues*</b>	<b>For the Years Ended March 31,</b>		
	<b>2006</b>	<b>2005</b>	<b>2004</b>
AMSC Wires Gross	\$ 14,451,713	\$ 15,265,237	\$ 8,789,497
Less: AMSC Wires Intercompany (SuperMachines)	(244,800)	(3,753,600)	(993,600)
AMSC Wires Net	\$ 14,206,913	\$ 11,511,637	\$ 7,795,897
SuperMachines	21,663,884	31,107,572	26,501,073
Power Electronic Systems	15,001,651	15,663,629	7,011,735
<b>Total</b>	<b>\$ 50,872,448</b>	<b>\$ 58,282,838</b>	<b>\$ 41,308,705</b>

\* See Note 11. Cost-sharing funding is not included in reported revenues.

<b>Operating profit (loss)</b>	<b>For the Years Ended March 31,</b>		
	<b>2006</b>	<b>2005</b>	<b>2004</b>
AMSC Wires	\$ (27,204,629)	\$ (15,885,775)	\$ (18,815,738)
SuperMachines	(707,593)	412,308	966,130
Power Electronic Systems	(3,683,314)	66,067	(6,429,801)
Unallocated corporate expenses	(1,891,020)	(4,941,462)	(1,406,865)
<b>Total</b>	<b>\$ (33,486,556)</b>	<b>\$ (20,348,862)</b>	<b>\$ (25,686,274)</b>

The assets for the three business segments (plus Corporate cash) are as follows:

	<b>For the Years Ended March 31,</b>	
	<b>2006</b>	<b>2005</b>
AMSC Wires	\$ 51,897,218	\$ 59,587,516
SuperMachines	7,491,753	5,538,203

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Power Electronic Systems	8,412,886	6,210,134
Corporate cash and marketable securities	65,668,605	87,581,221
	<hr/>	<hr/>
Total	\$ 133,470,462	\$ 158,917,074
	<hr/>	<hr/>

Other significant segment information is as follows:

	For the Years Ended March 31,		
	2006	2005	2004
<b>Depreciation and amortization</b>			
<hr/>	<hr/>	<hr/>	<hr/>
AMSC Wires	\$ 6,556,863	\$ 6,444,941	\$ 6,001,724
SuperMachines	371,546	641,305	545,623
Power Electronic Systems	546,965	698,529	741,878
	<hr/>	<hr/>	<hr/>
Total	\$ 7,475,374	\$ 7,784,775	\$ 7,289,225
	<hr/>	<hr/>	<hr/>

	For the Years Ended March 31,	
	2006	2005
<b>Capital expenditures</b>		
<hr/>	<hr/>	<hr/>
AMSC Wires	\$ 2,848,706	\$ 1,272,549
SuperMachines	48,455	69,776
Power Electronic Systems	96,536	118,027
	<hr/>	<hr/>
Total	\$ 2,993,697	\$ 1,460,352
	<hr/>	<hr/>

**Table of Contents****AMERICAN SUPERCONDUCTOR CORPORATION****NOTES TO CONSOLIDATED STATEMENTS (Continued)**

The accounting policies of the business segments are the same as those described in Note 2, except that certain corporate expenses which the Company does not believe are specifically attributed or allocable to any of the three business segments have been excluded from the segment operating income (loss). Corporate unallocated expenses include the rent and occupancy costs associated with the unoccupied portion of the Company's Westborough, MA corporate headquarters. In fiscal 2005, these corporate unallocated expenses also included \$520,374 of legal expenses relating to the TM Capital lawsuit and \$2,653,340 relating to the litigation settlement with TM Capital, a past financial advisor to the Company.

**15. Abandoned Debt Financing**

Fees abandoned debt financing of \$35,193 in fiscal 2005 and \$1,387,857 in fiscal 2004 represented various fees and expenses incurred in connection with the Company's planned debt financing transaction that the Company decided not to pursue in August 2003 in favor of a public equity offering, which the Company completed in October 2003. None of these costs related to the lawsuit filed against the Company in November 2003 by TM Capital Corp. There were no Fees abandoned debt financing in fiscal 2006. See Note 10 Commitments and Contingencies.

**16. Quarterly Financial Data (Unaudited)**

<b>Fiscal year ended March 31, 2006:</b>				
<b>Three Months Ended</b>	<b>June 30,</b>	<b>September 30,</b>	<b>December 31,</b>	<b>March 31,</b>
	<b>2005</b>	<b>2005</b>	<b>2005</b>	<b>2006</b>
Revenues	\$ 12,202,000	\$ 10,881,000	\$ 13,496,000	\$ 14,293,000
Operating loss	\$ (6,350,000)	\$ (7,196,000)	\$ (8,278,000)	\$ (11,663,000)
Net loss	\$ (5,638,000)	\$ (6,759,000)	\$ (7,452,000)	\$ (11,027,000)
Net loss per common share Basic and Diluted	\$ (0.17)	\$ (0.21)	\$ (0.23)	\$ (0.34)

  

<b>Fiscal year ended March 31, 2005:</b>				
<b>Three Months Ended</b>	<b>June 30,</b>	<b>September 30,</b>	<b>December 31,</b>	<b>March 31,</b>
	<b>2004</b>	<b>2004</b>	<b>2004</b>	<b>2005</b>
Revenues	\$ 12,650,000	\$ 9,533,000	\$ 23,247,000	\$ 12,853,000
Operating loss	\$ (4,986,000)	\$ (4,235,000)	\$ (2,648,000)	\$ (8,480,000)

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Net loss	\$ (4,946,000)	\$ (4,084,000)	\$ (2,464,000)	\$ (8,166,000)
Net loss per common share - Basic and Diluted	\$ (0.18)	\$ (0.15)	\$ (0.09)	\$ (0.28)

### 17. New Accounting Pronouncements

On December 16, 2004 the FASB issued its final standard on accounting for share-based payments, SFAS No. 123R (revised 2004),

Share-Based Payment (SFAS 123R), that requires companies to expense the value of employee stock options and similar awards. SFAS 123R addresses the accounting for share-based payment transactions with employees, excluding employee stock ownership plans (ESOPs) and awards made in connection with business combinations. Examples include employee stock purchase plans (ESPPs), stock options, restricted stock, and stock appreciation rights. Under SFAS 123R, the most significant change in practice would be treating the fair value of stock-based payment awards that are within its scope as compensation expense in the income statement beginning on the date that a company grants the awards to employees. The expense would be recognized over the vesting period for each option tranche and adjusted for actual forfeitures that occur

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**AMERICAN SUPERCONDUCTOR CORPORATION**

**NOTES TO CONSOLIDATED STATEMENTS (Continued)**

before vesting. In March 2005, the SEC issued Staff Accounting Bulletin (SAB) 107. SAB 107 expresses views of the SEC regarding the interaction between SFAS 123R and certain SEC rules and regulations and provides the SEC's views regarding the valuation of share-based payment arrangements for public companies. SFAS 123R and SAB 107 are effective for the Company in the period beginning April 1, 2006. The Company is currently assessing the impact the adoption of this standard will have on its financial position and results of operations. The pro forma disclosures previously permitted under SFAS 123 will no longer be an alternative to financial statement recognition. However, these pro forma disclosures provide an indication of what the effect of adopting SFAS 123R would have been on the historical periods presented.

In November 2004, the FASB issued SFAS No. 151, *Inventory Costs* an Amendment of ARB No. 43, Chapter 4. This accounting standard, which is effective for annual periods beginning after June 15, 2005, requires that abnormal amounts of idle facility expense, freight, handling costs, and wasted materials (spoilage) should be recognized as current-period charges. The Company does not expect the adoption of SFAS No. 151 to have a material effect on its financial position or results of operations.

In May 2005, FASB issued SFAS No. 154, *Accounting Changes and Error Corrections*. SFAS No. 154 replaces APB No. 20, *Accounting Changes*, and SFAS No. 3, *Reporting Accounting Changes in Interim Financial Statements*, and establishes retrospective application as the required method for reporting a change in accounting principle. SFAS No. 154 provides guidance for determining whether retrospective application of a change in accounting principle is impracticable and for reporting a change when retrospective application is impracticable. The reporting of a correction of an error by restating previously issued financial statements is also addressed. SFAS No. 154 is effective for accounting changes and corrections of errors made in fiscal years beginning after December 15, 2005. The Company does not anticipate that the adoption of SFAS No. 154 will have a material impact on its consolidated results of operations.

**Table of Contents****American Superconductor Corporation****Schedule II Valuation and Qualifying Accounts**

Description	Balance, Beginning of Year	Additions Charged to Costs and Expenses	Deductions		Balance, End of Year
			Actual Write-Off	Less Recoveries	
Allowance for doubtful notes and accounts receivable:					
Year ended March 31, 2006	\$ 47,323	\$ 2,328	\$ 10,986	\$ 38,665	\$
Year ended March 31, 2005	41,349	47,323	41,349		47,323
Year ended March 31, 2004	2,657,485	41,349	2,657,485		41,349
Description	Balance, Beginning of Year	Additions	Deletions	Adjustments	Balance, End of Year
Deferred Tax Asset Valuation Allowance:					
Year ended March 31, 2006	\$ 140,315,000	\$ 6,301,000	\$	\$	\$ 146,616,000
Year ended March 31, 2005	132,115,000	8,200,000			140,315,000
Year ended March 31, 2004	119,053,000	13,062,000			132,115,000

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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.

AMERICAN SUPERCONDUCTOR CORPORATION

By:                                  /s/ GREGORY J. YUREK

**Gregory J. Yurek**

**Chairman of the Board and**

**Chief Executive Officer**

Date: June 14, 2006

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>                                </u> /s/ GREGORY J. YUREK	Director, Chairman of the Board	)
<b>Gregory J. Yurek</b>	and Chief Executive Officer (Principal Executive Officer)	) ) June 14, 2006
<u>                                </u> /s/ THOMAS M. ROSA	Vice President and	)
<b>Thomas M. Rosa</b>	Chief Financial Officer (Principal Financial Officer)	) ) June 14, 2006
<u>                                </u> /s/ ALBERT J. BACIOCCO, JR.	Director	) ) June 14, 2006
<b>Albert J. Baciocco, Jr.</b>		)
<u>                                </u> /s/ VIKRAM S. BUDHRAJA	Director	) ) June 14, 2006
<b>Vikram S. Budhraj</b>		)
<u>                                </u> /s/ PETER O. CRISP	Director	) ) June 14, 2006
<b>Peter O. Crisp</b>		)
<u>                                </u> /s/ RICHARD DROUIN	Director	) ) June 14, 2006



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**Richard Drouin**

)

/s/ ANDREW G.C. SAGE, II

Director

)

June 14, 2006

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**Andrew G.C. Sage, II**

)

/s/ JOHN B. VANDER SANDE

Director

)

June 14, 2006

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**John B. Vander Sande**

)

**Table of Contents****EXHIBIT INDEX**

<b>Exhibit No.</b>	<b>Description</b>
3.1	Restated Certificate of Incorporation of the Registrant (1)
3.2	Amended and Restated By-laws of the Registrant (2)
4.1	Specimen Certificate for shares of Common Stock, \$.01 par value, of the Registrant (3)
4.2	Rights Agreement dated as of October 30, 1998 between the Registrant and American Stock Transfer & Trust Company, as Rights Agent (4)
4.3	Amendment No. 1 to Rights Agreement dated as of January 29, 1999 between the Registrant and American Stock Transfer & Trust Company, as Rights Agent (5)
*10.1	Employment Agreement dated as of December 4, 1991 between the Registrant and Gregory J. Yurek (3)
*10.2	Employment Agreement dated as of December 4, 1991 between the Registrant and Alexis P. Malozemoff (3)
10.3	Form of Employee Nondisclosure and Developments Agreement (3)
*10.4	Employee Nondisclosure and Developments Agreement dated as of December 26, 1990 between the Registrant and Alexis P. Malozemoff (3)
*10.5	Noncompetition Agreement dated as of July 10, 1987 between the Registrant and John Vander Sande (3)
10.6	License Agreement between the Registrant and MIT dated as of July 6, 1987 (3)
10.7	License Agreement between the Registrant and MIT dated as of January 31, 1989 (3)
10.8	License Agreement dated as of August 1, 1991 (3)
10.9	License Agreement dated as of September 1, 1991 (3)
10.10	Second Amendment dated as of January 27, 1992 between the Registrant and MIT amending the License Agreement dated as of July 6, 1987 between the Registrant and MIT (6)
10.11	Technology Development and Patent Licensing Agreement dated October 7, 1992 among the Registrant and Electricity Corporation of New Zealand Limited and Industrial Research Limited (7)
*10.12	Employment Agreement dated as of December 31, 1992 between American Superconductor Europe GmbH and Dr. Gero Papst (7)
10.13	Lease dated March 9, 1993 between CGLIC on Behalf of its Separate Account R, as Landlord, and the Registrant (7)
10.14	First Amendment to Lease between CGLIC, on Behalf of its Separate Account R, as Landlord, and the Registrant, as Tenant dated October 27, 1993 (8)
*10.15	1993 Stock Option Plan (7)
10.16	Agreement dated January 1, 1994 between Pirelli Cavi S.p.A. and the Registrant (9)
10.17	Agreement between Pirelli Cavi S.p.A. and the Registrant, dated October 1, 1995 (10)
10.18	Technology Development and Patent Licensing Agreement, First Amendment dated August 7, 1993 among the Registrant and Electricity Corporation of New Zealand and Industrial Research Limited (8)
10.19	Subcontract Agreement effective as of September 30, 1993 by and between the Registrant and Reliance Electric Company (11)

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<b>Exhibit No.</b>	<b>Description</b>
10.20	Fourth Amendment dated May 15, 1995 to the Exclusive License Agreement between the Registrant and MIT dated July 6, 1987 (12)
*10.21	Amended and Restated 1996 Stock Incentive Plan (13)
10.22	Management Agreement between Electric Power Research Institute, Inc. and the Registrant, effective January 1, 1996 (10)
10.23	Technology License Agreement between Electric Power Research Institute, Inc. and the Registrant, effective January 1, 1996 (10)
10.24	Warrant granted to Electric Power Research Institute, Inc. by the Registrant, dated March 26, 1996 (10)
10.25	Strategic Alliance Agreement by and among the Registrant and CHARTH (Compagnie Holding D Applications Et De Realisations Thermiques Et Hydrauliques), dated as of April 1, 1997 (14)
10.26	Patent License Agreement between Lucent Technologies Inc. and the Registrant, dated as of March 31, 1998 (15)
10.27	Agreement dated April 1, 1997 by and between Electricite de France and the Registrant (15)
10.28	Agreement effective April 1, 1997 by and between ABB Transmission & Distribution Technology Ltd. and the Registrant (15)
10.29	1999 Program Addendum between Pirelli Cavi e Sistemi Energia S.p.A and the Registrant dated as of October 1, 1999 (16)
10.30	Cable Wire Agreement between Pirelli Cavi e Sistemi Energia S.p.A. and the Registrant, dated as of December 31, 2001 (17)
10.31	Third Amendment to Lease for 2 Technology Drive, Westboro, MA between Gateway Sherwood, Inc. (successor in interest to CGLIC, on behalf of its Separate Account R, as Landlord), and the Registrant, dated as of August 24, 2001 (17)
*10.32	Second Amended and Restated 1997 Director Stock Option Plan (18)
10.33	License Agreement, dated as of June 10, 2003, between the Registrant and Sumitomo Electric Industries, Ltd. (19)
10.34	Agreement, dated as of February 28, 2003, between the Registrant and the U.S. Office of Naval Research (19)
10.35	Fifth Amendment, dated as of April 18, 2003 between the Registrant and the Massachusetts Institute of Technology (MIT) amending the License Agreement dated as of July 6, 1987 between the Registrant and MIT (19)
*10.36	Severance Agreement dated as of October 14, 2004 between the Registrant and Gregory J. Yurek (20)
*10.37	Severance Agreement dated as of October 14, 2004 between the Registrant and Alexis P. Malozemoff (20)
10.38	Form of incentive stock option agreement under 2004 Stock Incentive Plan (21)
10.39	Form of non-statutory stock option agreement under 2004 Stock Incentive Plan (21)
10.40	Form of restricted stock agreement under 2004 Stock Incentive Plan
10.41	Form of stock option agreement under Second Amended and Restated 1997 Director Stock Option Plan, as amended (21)
10.42	Settlement Agreement by and between the Registrant and TM Capital Corp., dated April 4, 2005 (21)

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<b>Exhibit No.</b>	<b>Description</b>
10.43	Registration Rights Agreement by and between the Registrant and TM Capital Corp., dated April 4, 2005 (21)
10.44	Stock Purchase Warrant issued by the Registrant to TM Capital Corp., dated April 4, 2005 (21)
10.45	Executive Incentive Plan (22)
*10.46	Severance Agreement dated as of May 4, 2006 between the Registrant and Thomas M. Rosa (23)
*10.47	Severance Agreement dated as of May 4, 2006 between the Registrant and Angelo Santamaria (23)
*10.48	Severance Agreement dated as of May 4, 2006 between the Registrant and Terry Winter (23)
*10.49	Severance Agreement dated as of May 4, 2006 between the Registrant and Charles M. Stankiewicz (23)
21.1	Subsidiaries
23.1	Consent of PricewaterhouseCoopers LLP
31.1	Chief Executive Officer Certification pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Chief Financial Officer Certification pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Chief Executive Officer Certification pursuant to Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Chief Financial Officer Certification pursuant to Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(1)	Incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-3, filed with the commission on January 24, 2000 (File No. 333-95261).
(2)	Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on November 14, 2000 (Commission File No. 000-19672).
(3)	Incorporated by reference to Exhibits to the Registrant's Registration Statement on Form S-1, filed with the Commission on December 13, 1991 (File No. 33-43647).
(4)	Incorporated by reference to Exhibit 1 to the Registrant's Registration Statement on Form 8-A filed with the Commission on November 2, 1998 (Commission File No. 000-19672).
(5)	Incorporated by reference to Exhibit 2 to the Registrant's Registration Statement on Form 8-A/A filed with the Commission on March 12, 1999 (Commission File No. 000-19672).
(6)	Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 29, 1992 (Commission File No. 000-19672).
(7)	Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 29, 1993 (Commission File No. 000-19672).
(8)	Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on January 26, 1994 (Commission File No. 000-19672).
(9)	Incorporated by reference to Exhibits to Amendment No. 1 to the Registrant's Quarterly Report on Form 10-Q/A filed with the Commission on March 28, 1994 (Commission File No. 000-19672).
(10)	Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K/A filed with the Commission on March 10, 1997 (Commission File No. 000-19672).

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- (11) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 29, 1994 (Commission File No. 000-19672).
  - (12) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 29, 1995 (Commission File No. 000-19672).
  - (13) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 27, 2001 (Commission File No. 000-19672).
  - (14) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 30, 1997 (Commission File No. 000-19672).
  - (15) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 26, 1998 (Commission File No. 000-19672).
  - (16) Incorporated by reference to Exhibits to the Registrant's Current Report on Form 8-K filed with the Commission on January 24, 2000 (Commission File No. 000-19672).
  - (17) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K filed with the Commission on June 25, 2002 (Commission File No. 000-19672).
  - (18) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 14, 2002 (Commission File No. 000-19672).
  - (19) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 14, 2003 (Commission File No. 000-19672).
  - (20) Incorporated by reference to Exhibits to the Registrant's Current Report on Form 8-K filed with the Commission on October 15, 2004 (Commission File No. 000-19672).
  - (21) Incorporated by reference to Exhibits to the Registrant's Current Report on Form 8-K filed with the Commission on April 5, 2005 (Commission File No. 000-19672).
  - (22) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 8, 2005 (Commission File No. 000-19672).
  - (23) Incorporated by reference to Exhibits to the Registrant's Current Report on Form 8-K filed with the Commission on May 5, 2006. Confidential treatment previously requested and granted with respect to certain portions, which portions were omitted and filed separately with the Commission.
- \* Management contract or compensatory plan or arrangement required to be filed as an Exhibit to this Form 10-K.