

# GSE SYSTEMS INC

## FORM 10-K (Annual Report)

Filed 03/17/05 for the Period Ending 12/31/04

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Industry	Software
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Fiscal Year	12/31

# GSE SYSTEMS INC

## FORM 10-K (Annual Report)

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Address	9189 RED BRANCH ROAD COLUMBIA, Maryland 21045
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CIK	0000944480
Industry	Software & Programming
Sector	Technology
Fiscal Year	12/31

Conformed

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549  
**FORM 10-K**

(Mark One)

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

OR

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

*Commission File Number 0-26494*

## GSE Systems, Inc.

(Exact name of registrant as specified in its charter)

Delaware  
(State of incorporation)

52-1868008  
(I.R.S. Employer Identification Number)

9189 Red Branch Road, Columbia, Maryland  
(Address of principal executive offices)

21045  
(Zip Code)

Registrant's telephone number, including area code: (410) 772-3500

### SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of each class Name of each exchange on which registered  
Common Stock, \$.01 par value American Stock Exchange

### SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT: NONE

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 registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes  No

The aggregate market value of Common Stock held by non-affiliates as of June 30, 2004 was \$22,195,271 based on the closing price of such stock on that date of \$2.48.

Number of shares of Common Stock outstanding as of March 1, 2005: 8,999,706

### DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates certain information by reference from the Registrant's definitive proxy statement to be filed for its 2005 Annual Meeting of Shareholders.

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\* to be incorporated by reference from the Proxy Statement for the registrant's 2005 Annual Meeting of Shareholders.

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### Cautionary Statement Regarding Forward-Looking Statements.

This report contains certain forward-looking statements. Any statements contained herein that are not statements of historical facts may be deemed forward-looking statements. These statements are based on management's current beliefs and expectations and are subject to numerous risks and uncertainties and changes in circumstances. Actual results may differ materially from these forward-looking statements due to changes in global, economic, business, governmental, technical, competitive, market and regulatory factors.

## PART I

### ITEM 1. BUSINESS.

GSE Systems, Inc. ("GSE Systems", "GSE" or the "Company") is a world leader in real-time, high fidelity simulation. The Company provides simulation solutions and services to the nuclear and fossil electric utility industry, the chemical and petrochemical industries and to the US Military Complex. In addition, the Company provides plant monitoring, and signal analysis monitoring and optimization software primarily to the power industry.

The Company's annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports will be made available free of charge through the Investor Relations section of the Company's Internet website (<http://www.gses.com>) as soon as practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission.

### Recent Developments.

In September 2003, the Company completed the sale of substantially all of the assets of GSE Process Solutions, Inc. (Process) to Novatech,

LLC (Novatech) pursuant to an Asset Purchase Agreement, effective as of September 25, 2003, by and between the Company, Process and Novatech. The Company received \$5.5 million in cash, subject to certain adjustments. The operating results of the Company's Process business have been classified as discontinued operations in the Consolidated Statements of Operations for all periods presented. With the sale of the Process business, the Company now has only one reportable segment, Simulation.

On October 23, 2003, ManTech International Corp. (ManTech) converted its preferred stock to common stock and sold all of its GSE common stock and its \$650,000 unsecured subordinated promissory note to GP Strategies Corporation. The terms of the subordinated note were amended to allow the conversion of the subordinated debt by GP Strategies to GSE common stock. As a result of these transactions, GP Strategies currently owns approximately 58% of GSE. In December 2003, John Moran, a GP Strategies executive with experience in both the power industry and simulation technology, was elected Chief Executive Officer of GSE by the Company's Board of Directors.

The Company had a fair order year, with the receipt of several significant domestic and international simulation projects. Total orders for the year exceeded \$18 million, but backlog decreased to \$19.6 million at December 31, 2004 from \$30.4 million as of December 31, 2003. Several large projects that the Company expected would close in 2004 in the power sector were delayed until 2005 due to customer budget constraints. The US nuclear power market remained dormant in terms of new plant orders. However, the Company invested heavily in Business Development in 2004 and has in excess of \$63 million in outstanding proposals at March 1, 2005. We expect many of these opportunities to close in 2005. Despite the lower order activity in 2004, the Company's revenue for the year increased to \$29.5 million representing an 18.0% increase over the prior year. Operating income for the Company was \$2,000 for the year, compared to a \$991,000 loss in 2003.

In conjunction with the divestiture of the Process Automation business in 2003, the Company restructured its Power Simulation Business in order to reduce expenses and focus on business development. The Company entered into a Management Services Agreement with GP Strategies effective January 1, 2004 in which the Company outsourced most of its corporate functions (accounting, human resources, etc.) and terminated most of its corporate staff. The Company reorganized in early 2004, creating a dedicated worldwide business development organization under the direction of one manager, and consolidated all of its operations in Columbia, Maryland, St. Mary's, Georgia and Nykoping, Sweden under another manager. To maintain its capability to fulfill customer orders, the Company strengthened and expanded its relationships with international partners to provide the necessary workforce augmentation.

The Company is positioned to take advantage of emerging trends in the power industry. The operating licenses for numerous nuclear power plants will expire over the next several years. Nineteen plants have received license extensions in the last four years and twenty-nine more have applications pending. Many plants are also planning significant upgrades to the physical equipment and control room technology in conjunction with the license extensions. Both will result in the need to modify or replace the existing plant control room simulators. The Company, having the largest installed base of existing simulators, is well positioned to capture the majority of this business.

In addition, the Company has developed strategic partnerships with two companies in China to better position itself to take advantage of the opportunities in nuclear power in this region of the world. Over the next ten years, China expects to build 20 new nuclear power plants utilizing Western technology. Most of these new plants will require a stand alone simulator for which the Company is best qualified to supply.

The Company continues to focus on the fossil power segment of the power industry. Over 15 fossil plant simulator projects were awarded to GSE in 2004, including full scope simulator projects, model upgrades, engineering services and license sales, expanding the Company's presence in the market and establishing key strategic relationships with power industry DCS providers. The Company expects continued growth in this market segment and is focusing on second time simulation buyers that now demand the more sophisticated and realistic simulation models offered by the Company.

While GSE simulators are primarily utilized for power plant operator training, the uses are expanding to include engineering analysis, plant modification studies, and operation efficiency improvements for both nuclear and fossil utilities. During plant construction, simulators are used to test control strategies and ensure on-time start-up. After commissioning, the same tools can be used to increase plant availability and optimize plant performance for the life of the facility. In partnership with an industry leading optimization company, GSE will be participating in DOE grant programs to utilize simulation and optimization for DOE's clean coal power initiative.

The Company has targeted the Process simulation business as an area with a significant potential for growth. The process industries, particularly oil and gas and chemical, are expanding worldwide and are faced with the challenges of performance improvement at existing facilities and training of personnel to staff new and upgraded facilities. The research firm ARC estimates the market for Operator Training Simulators will grow at a rate of over 16% over the next several years, with growth rates in Latin America and China exceeding a growth rate of 21% annually. The Company's SimSuite Pro product and experience in the process industries provide the Company with excellent capabilities to service these needs.

The acquisition by GP Strategies of controlling interest in GSE has led to further cooperation between the companies. In addition to cooperating in the marketing of individual products, the companies will combine some of General Physics' extensive training materials and programs with GSE's power plant simulation models to provide truly interactive and adaptive total training solutions. Cooperative marketing activities between General Physics and GSE will enable the Company to extend simulation capabilities into industries beyond Power and Process and to expand the range of products and services offered to customers. In 2004, the Company developed two major proposals to build simulation training centers in the Gulf Region of the Middle East. If successful, GSE will provide power, process and desalination plant simulators, and General Physics would provide the training materials and initial instructor training.

In addition to expanding the Company's simulation capability into the non-nuclear power market and the process industries market, it made a

major investment in developing business with the US government and in particular its military component. There are two areas of emphasis in this market - Homeland Security and Military Defense simulation. In Homeland Security, the Company has turned its attention to opportunities for simulation in disaster recovery and terrorist threat response. In 2004, the Company continued development of its REMITS product used to simulate the operation of Emergency Operations Centers (EOC) run by municipal and state governments. REMITS is a Real-time Emergency Management Interactive Training System designed to simulate emergency situations and enable EOC staffs to train without requiring human participation in the field. REMITS enables the EOC staff to stay current with the technology and enables instructors to introduce new problems and challenges during the exercise to test the EOC staff response to changing situations. As the Federal Government spends billions in first responder training, the Company believes its REMITS product will find a large market in the developing field of training for disaster recovery and terrorist threat response. The Company is currently installing REMITS with the State of Nevada EOC as a Beta site.

With regard to military defense simulation, the Company successfully recruited a very experienced business development team, and developed and is in the process of executing an extensive plan to capitalize on what is clearly recognized as the biggest simulation spender in the world. In 2004, the Company executed over \$2 million in simulation work for the US Navy on their nuclear propulsion program. The Navy selected GSE's technology for this program which is expected to extend through the year 2025. In addition, GSE is a significant part of a team in competition for NAVAIR's Fielded Training Systems Support procurement, a procurement which will award contracts valued at over \$800 million in simulation work to an estimated seven companies. GSE was recently advised that the team is in the final stage of selection.

### **Research and Development**

The Company's R&D expenditures in 2004 were related to:

- \* Additional enhancements to JADE (Java Application & Development Environment), a Java based application software package that provides real time simulation modeling tools, and an instructor station for the trainer to control and monitor simulator training exercises. JADE 3.0 will be released in the second quarter 2005.

- \* The development of new functionality for the Company's Jtools software modeling tools.

- \* The modification of the Company's simulation technology to simulate the operation of Emergency Operations Centers (EOC) run by municipal and state governments.

- \* The development of a software product that will allow doctors to create digital patient records through the use of a personal digital assistant (PDA) instead of manually recording patient information.

- \* The embedding of the Company's full scope simulator software into classroom training materials by segmenting its simulation software into "pieces" so that the software can be utilized to teach specific skills in operating the nuclear electric utilities without the need for control room panels.

### **Background.**

GSE Systems was formed on March 30, 1994 to consolidate the simulation and related businesses of S3 Technologies, General Physics International Engineering & Simulation and EuroSim, each separately owned and operated by ManTech International Corporation, GP Strategies Corporation and Vattenfall AB, respectively. On December 30, 1994, GSE Systems expanded into the process control automation and supply chain management consulting industry through its acquisition of the process systems division of Texas Instruments Incorporated, which the Company operated as GSE Process Solutions, Inc. ("Process").

In December 1997, the Company acquired 100% of the outstanding common stock of J.L. Ryan, Inc. ("Ryan"), a provider of engineering modifications and upgrade services to the power plant simulation market. The combination of the Company's pre-existing technology with the technical staff of the acquired Ryan business positioned the Company to be more competitive for modifications and upgrade service projects within the nuclear simulation market.

In October 2002, GSE purchased the stock of ManTech Automation Systems (Beijing) Company Ltd, from ManTech International Corp. The Chinese company, which has eight employees, was renamed GSE Systems Engineering (Beijing) Company Ltd. This acquisition gave the Company a much needed base in China to pursue and implement simulation projects in that emerging market.

In September 2003, the Company completed the sale of substantially all of the assets of GSE Process Solutions, Inc. (Process) to Novatech, LLC (Novatech) pursuant to an Asset Purchase Agreement, effective as of September 25, 2003, by and between the Company, Process and Novatech. The Company received \$5.5 million in cash, subject to certain adjustments.

### **Simulation Business.**

The Company is comprised of three divisions: Power Simulation, Process Simulation and US Government and Military Simulation.

#### **Power Simulation.**

## Industry

The real-time simulation industry grew from the need to train people on complex and potentially dangerous operations, without placing life or capital assets at risk. Real-time simulation has been used for the training of plant operators for the power industry, including both nuclear power plants and conventional fossil fuel power plants (i.e., coal, oil, and natural gas), since the early 1970s. Real-time simulation usage has traditionally centered on initial training of operators and follow-on training of operators in emergency conditions that can best be achieved through simulation replicating actual plant operations.

In the nuclear power industry, use of a simulator that accurately reflects the current actual plant design is mandated by the U.S. Nuclear Regulatory Commission. This mandate resulted from the investigation of the accident at the Three Mile Island nuclear plant in 1979, which was attributed, at least in part, to operator error. The NRC requires nuclear plant operators to earn their licenses through simulator testing. Each nuclear plant simulator must pass a certification program to ensure that the initial plant design and all subsequent changes made to the actual plant control room or plant operations are accurately reflected in the simulator. Plant operating licenses are tied to simulator certification.

Full scope power plant simulators are a physical representation of the entire plant control room. The control panels are connected to an input/output (I/O) system, which converts analog electrical signals to digital signals understood by the simulation computer. The simulation computer houses the mathematical models, which simulate the physical performance of the power plant's systems such as the reactor core, steam boiler, cooling water, steam turbine, electrical generator, plant system controls and electrical distribution systems. Partial scope simulators can be viewed as a subset of a full scope simulator. Instead of simulating the entire performance of the power plant, a partial scope simulator might represent one or two critical systems such as the steam turbine and/or electrical generator operation.

In the past, training simulators had to strike a delicate balance between providing an accurate engineering representation of the plant, while still operating in "real-time" in order to provide effective training. As computing power has increased, so too has the capacity of simulators to provide more accurate plant representations in real-time based upon simulation models developed from engineering design codes.

Simulation also is used to validate proposed plant equipment changes to confirm the results of such changes, prior to making the change in the plant, which can save time and money, as well as reduce the risk of unsafe designs, for the utility.

Demand for new simulators in the nuclear power industry shifted to the international market in the 1990s, as the domestic market was limited to upgrades and replacement of existing simulators. However, the Company believes that the economics and importance of nuclear power to the U.S. energy supply may result in the extension of the useful lives of U.S. nuclear power plants. Any service life extension of a nuclear power plant is likely to require major upgrades to the plant's equipment and technology, including its simulator.

Fossil fuel plant simulators are not required by law or regulation, but are justified as a cost-effective approach to train operators on new digital control systems being implemented at many fossil fuel power plants. The size, complexity and price of a fossil plant simulator are much lower than for simulators used for nuclear plants. Fossil plant simulators have traditionally used lower fidelity (less sophisticated) mathematical models to provide an approximate representation of plant performance. The demand for highly accurate models did not exist in the early market for fossil simulators since the main use of the simulator was to train operators on the functionality of distributed control systems for plant start-up activities.

The deregulation of the power industry has forced utilities to view their assets differently. Power plants must now be profit centers, and gaining the maximum efficiency from the plant to become, or remain, competitive is a paramount issue. The mindset of the operator has shifted, as plant operators now must perform within narrower and narrower performance margins while still maintaining safe operations. GSE believes its fossil fuel plant customers are now recognizing the benefits of high fidelity simulation models that provide highly accurate representations of plant operations to help plant operators and management determine optimal performance conditions.

Despite the recent down-turn in the domestic power plant development market, the Company sees two trends which may indicate the need for more simulation products and services. First, the license extension process in the nuclear industry may result in significant changes in plant equipment and control room technology. Based upon US Nuclear Regulatory Commission regulations, each training simulator is required to reflect all changes that are made in the actual plant, thus when changes in plant equipment and control room technology are made, the nuclear power plants must either upgrade existing simulators or purchase brand new simulators. Second, the aging of the nuclear and fossil plant operator workforce will result in the need for simulation to train the next generation of plant operators.

Therefore, the Company believes that these trends, if they come to fruition in whole or even in part, represent a market opportunity for its real-time simulation, plant optimization, asset management and condition monitoring products and services.

### GSE's solution

The Company's Power Simulation business is a leader in the development, marketing and support of high fidelity, real-time, dynamic simulation software for the electric utility industry. The Company has built or modified about 65 of the approximately 75 full-scope simulators serving about 103 operating nuclear power plants in the United States. Outside the United States, GSE has built or modified about 73 of the approximately 167 full-scope simulators serving approximately 329 operating nuclear power plants.

In addition to operator training, the Company's simulation products and services permit plant owners and operators to simulate the effects of

changes in plant configuration and performance conditions to optimize plant operation. These features allow the Company's customers to understand the cost implications of replacing a piece of equipment, installing new technology or holding out-of-service assets. GSE has also developed a suite of tools based on sophisticated signal analysis and simulation techniques to help its customers manage their assets by determining equipment degradation before it severely impacts plant performance.

The Company has also focused on upgrading older technology used in power plants to new technology upgrades for plant process computers and safety parameter display systems. As nuclear plants in the U.S. continue to age, the Company will seek more business in this upgrade market.

GSE provides both turnkey solutions, including simulated hardware and proprietary software, to match a specific plant, and discrete simulation technology for specific uses throughout a plant. Its substantial investment in simulation technology has led to the development of proprietary software tools. These tools significantly reduce the cost and time to implement simulation solutions and support long-term maintenance. The Company's high fidelity, real-time simulation technology for power plant fluid, logic and control, electrical systems and associated real time support software, JADE, is available for use primarily on UNIX and Linux computer platforms. The Company's eXtreme tools were designed for the Windows environment. Both technologies were specifically designed to provide user friendly graphic interfaces to the Company's high fidelity simulator.

In addition to the simulator market, the Company offers products aimed at improving performance of existing plants by reducing the number of unplanned outages due to equipment failure. Using advanced signal analysis techniques, the Company's tools can predict when certain plant equipment needs to be replaced. Replacement of critical equipment prior to failure permits effective planning and efficient use of maintenance time during scheduled off-line periods.

Other products of the Power Simulation business include:

Java Applications & Development Environment (JADE), a Java-based application that provides a window into the simulation instructor station and takes advantage of the web capabilities of Java, allowing customers to access the simulator and run simulation scenarios from anywhere they have access to the web. JADE includes the following software modeling tools:

- \* Jflow, a modeling tool that generates dynamic models for flow and pressure networks.
- \* Jcontrol, a modeling tool that generates control logic models from logic diagrams.
- \* Jlogic, a modeling tool that generates control logic models from schematic diagrams.
- \* Jelectric, a modeling tool that generates electric system models from schematic and one-line diagrams.
- \* Jtopmeret, a modeling tool that generates two phase network dynamic models.
- \* Jdesigner, a JADE based intuitive graphic editor for all JADE tools.
- \* Jstation, a JADE based web-enabled Instructor Station.

eXtreme Tools is a suite of software modeling tools developed under the Microsoft Windows environment. It includes:

- \* XtremeFlow, a modeling tool that generates dynamic models for flow and pressure networks.
- \* XtremeControl, a modeling tool that generates control logic models from logic diagrams.
- \* XtremeLogic, a modeling tool that generates control logic models from schematic diagrams.
- \* Xtreme Electric, a modeling tool that generates electric system models from schematic and one-line diagrams.

SimExec, and OpenSim are real-time simulation executive systems that control all real-time simulation activities and allows for an off-line software development environment in parallel with the training environment. OpenSim is targeted for users of Microsoft Windows operating systems, while SimExec is targeted for users of Microsoft Windows, UNIX and LINUX operating systems.

SmartTutor, complementary software for instructor stations. It provides new capabilities to help improve training methodologies and productivity. Using Microsoft ActiveX controls, SmartTutor allows the control of the simulator software directly from Microsoft Office products. The user can run training scenarios directly from a Microsoft Word document, or he can plot and show transients live within a Microsoft PowerPoint slide.

eXtreme I/S, a Microsoft Windows based Instructor Station that allows the use of Microsoft Word and PowerPoint to control the real-time simulation environment. eXtreme I/S is a user-friendly tool for classroom training and electronic report generation. It provides real-time plant performance directly from the simulator during classroom training, which drastically increases learning efficiency.

Pegasus Surveillance and Diagnosis System, a software package for semi-automatic plant surveillance and diagnostics, incorporates sophisticated signal processing and simulation techniques to help operators evaluate the condition and performance of plant components. Pegasus permits plant management to identify degraded performance and replace components before they fail.



SIMON, a computer workstation system used for monitoring stability of boiling water reactor plants. SIMON assists the operator in determining potential instability events, enabling corrective action to be taken to prevent unnecessary plant shutdowns.

The Power Simulation business also provides consulting and engineering services to help users plan, design, implement, and manage/support simulation and control systems. Services include application engineering, project management, training, site services, maintenance contracts and repair.

### **Strategy**

The goal of the Power Simulation business is to expand its business on four fronts. First, it intends to continue serving its traditional customer base and to be prepared to meet increased demand if traditional simulation use grows in relation to increased electric capacity in the United States. Second, it intends to extend its simulation products into the Transmission and Distribution sector. Third, it intends to market its existing and upgraded simulation products and its newly designed signal analysis products as plant optimization asset management and condition monitoring tools. Fourth, it intends to leverage its existing engineering staff to provide additional services to domestic and international clients.

**Traditional Simulation Market.** Nuclear power currently accounts for about 20% of the electrical power grid capacity in the United States and this percentage will likely remain the same even as total capacity increases. Any new nuclear power plants will likely be of the advanced reactor designs created by Westinghouse, General Electric and Siemens. These new designs require new simulators and training programs, as they are different from the nuclear power plant designs currently in operation. In addition to new power plants, existing nuclear power plants will likely be required to remain on-line for a longer period than originally expected. In order to stay in operation, many plants will require life extension modifications. Since all existing U.S. nuclear power plants went on-line before 1979, their designs and technology can also benefit from the substantial advances in plant design and technology developed over the past 25 years. For example, several of the Company's U.S. utility customers are considering replacing their existing hard panel control rooms with modern distributed control systems (DCS) as are common in fossil fuel plants, and which have been implemented in Europe for several years. Significant changes to control room instrumentation and overall control strategy from hard panel to DCS generally require modification or replacement of the plant simulator. With the largest installed base of nuclear plant simulators in the world, the Company believes it is uniquely positioned to serve this market segment with new simulation products and services. GSE has received several projects in the last two years for implementing digital turbine control systems in U.S. plants.

As plants extend their useful life, many plan to "up-rate" the existing capacity to increase electrical yield. By changing the capacity of certain equipment in a plant, the utility can gain upwards of a 10%-15% increase in output. Again, any such changes must be reflected in the control room simulator, and operators must be trained on the new equipment before implementation.

In addition to the United States markets, several emerging regions of the world are expanding their electrical capacity with both nuclear and fossil fuel power plants. This is particularly the case in China and the Gulf Region of the Middle East. In 2004 the Company made significant investments in both of these regions, and as a result has identified a number of high impact opportunities for full scope simulators. GSE is increasing its marketing efforts in both of these areas.

**Classroom Simulation.** In recent years the Company has upgraded numerous training simulators to utilize standard PC technology. As an extension of the PC-based simulator technology, the Company has developed tools which will allow the training simulator to be used in a classroom setting, replacing the actual control room panels with "soft-panel" graphics.

Increased training requirements and demands for performance improvement have resulted in simulator training time becoming scarce. By providing the actual training simulator models in a classroom setting, the value of the simulator is increased by allowing more personnel the training advantages of interactive, dynamic real time simulation.

The Company pioneered the technology to run a simulator on a PC several years ago. However, the technology remains complex, which prevented wide deployment of the simulator in classrooms. The Company has developed unique software which allows simulator-based training lessons to be easily developed and deployed in a classroom setting.

**Simulation Beyond Training.** In addition to operator training, the Company's simulation products can meet this increased need for efficiency by assisting plant operators in understanding the cost implications of replacing equipment, installing new technology and maintaining out-of-service assets. In order to exploit this potential, the Company has increased the fidelity of its simulation products and is marketing its services to increase the fidelity of simulators that are already in operation.

As computing power and networking technologies improve, several of the Company's customers have started to migrate simulation technology from the training organization to the engineering organization. The same full scope simulation software that drives the simulated control room panels in a simulator can be used with graphical representations of the panels so engineers can test design changes and see how the balance of the plant will react to such changes. GSE has developed a Java-based application to allow customers easier access to, and use of, the simulation capabilities across the organization through network communication.

**Optimize Existing Engineering Resources.** GSE's Power domestic service organization focuses on simulator upgrades and retrofits. This group employs 12 engineers, and in addition, the Company employs over 60 engineers at the Columbia, Maryland headquarters capable of servicing the upgrade/retrofit and new simulator market. In addition to domestic resources, GSE has developed a network of trained engineers in Russia,

Ukraine, Czech Republic, Bulgaria, and China. These foreign resources provide low cost engineering and software development capabilities and are readily available to supplement the United States engineering staff as necessary.

In addition, the Power Simulation business has grown through acquisitions and will continue to pursue acquisitions and investment opportunities that will create value and enhance cash flow. The Company targets acquisitions and investments that provide:

- \* Cost savings opportunities
- \* Enhanced positioning in existing markets
- \* Entry into new geographic and industry markets
- \* Turnaround opportunities for under-performing businesses

### **Strategic Alliances**

Power's strategic alliances have enabled the Company to penetrate regions outside the United States by combining the Company's technological expertise with the regional presence and knowledge of local market participants. These strategic alliances have also permitted the reduction of research and development and marketing costs by sharing such costs with other companies.

In recent years, a significant amount of the Company's international business has come from contracts in Eastern Europe, including the republics of the former Soviet Union, the Pacific Rim and India. In order to acquire and perform these contracts, the Company entered into strategic alliances or partnerships with various entities including Automation Systems Co. Inc., a subsidiary of Beijing Jihang Automation (China); All Russian Research Institute for Nuclear Power Plant Operation (Russia); Kurchatov Institute (Russia); PowerGen (England); Risk Engineering Ltd. (Bulgaria); Samsung Electronics (Korea); Toyo Engineering Corporation (Japan); and the Institute for Information Industry (Taiwan).

In 2004, the Company successfully negotiated strategic partnerships with the Shanghai Automation and Instrumentation Co., LTD and the Shanghai University of Electric Power for the purpose of marketing and delivering simulators to the Chinese power and process industries.

### **Competition**

The Power Simulation business encounters intense competition. In the nuclear simulation market, GSE competes directly with larger firms primarily from Canada and Germany, such as L-3 Communications MAPPS Inc. and STN Atlas. The fossil simulation market is represented by smaller companies in the U.S. and overseas. Several of the Company's competitors have greater capital and other resources than it has, including, among other advantages, more personnel and greater marketing, financial, technical and research and development capabilities. Customer purchasing decisions are generally based upon price, the quality of the technology, experience in related projects, and the financial stability of the supplier.

### **Customers**

The Power Simulation business has provided approximately 200 simulation systems to an installed base of over 75 customers worldwide. In 2004, approximately 65% of the Company's revenue was generated from end users outside the United States. Customers include, among others, Arizona Public Service, Commission Federal De Electricidad, Emerson Process Management, Entergy Nuclear Operations, Honeywell Hi-Spec Solutions, Karnaraft Sakerhet & Utbildning AB, Nationalina Elektrischecka Kompania, Nebraska Public Power District, Orgrez SC, Battelle's Pacific Northwest National Laboratory, Seimens Westinghouse Power Corp., and Tennessee Valley Authority.

For the years ended December 31, 2004, 2003, and 2002 one Power Simulation customer (Battelle's Pacific Northwest National Laboratory) accounted for approximately 24%, 29%, and 23%, respectively, of GSE's consolidated revenue. The Pacific Northwest National Laboratory is the purchasing agent for the Department of Energy and the numerous projects GSE performs in Eastern and Central Europe.

### **Sales and Marketing**

The Company markets its Power Simulation products and services through a network of direct sales staff, agents and representatives, systems integrators and strategic alliance partners. A direct sales force is employed in the continental United States. Market-oriented business and customer development teams define and implement specific campaigns to pursue opportunities in the power marketplace.

The Company's ability to support its multi-facility, international and/or multinational Power Simulation clients is facilitated by its network of offices and strategic partners in the U.S. and overseas. Power Simulation offices are maintained in Maryland and Georgia, and outside the U.S., in Sweden, China and Japan. In addition to the offices located overseas, the Company's ability to conduct international business is enhanced by its multilingual and multicultural work force. GSE has strategic relationships with systems integrators and agents representing its interests in:

Russia  
Germany  
Bulgaria  
Spain  
Czech Republic  
India  
United Kingdom  
Ukraine

South Africa  
Mexico  
Brazil  
Taiwan  
South Korea  
Japan  
People's Republic of China

Process Simulation.

## **Industry**

Throughout the process industries there is continuing competitive pressure and a reduction of technical resources, which is forcing process manufacturers to turn to advanced technologies for real-time optimization, training, and advanced process control. Operational efficiency is vital for companies to remain competitive where many of the manufacturing industries operate on very thin margins. There are only one or two advanced technology companies that offer services fully across this spectrum, and GSE offers dynamic real-time simulation capabilities for operator training into this segment.

## **GSE's Solution**

The SimSuite Pro product was developed by GSE specifically for operator training, and the GSE culture and expertise is one of customized project execution and delivery. This marketplace places a high value on experience, both company-wide and for the individuals on the project teams, so GSE promotes its long history in training simulators, while also seeking new applications. The SimSuite Pro package continues to be enhanced with features applicable not just to the execution of professional training techniques, but also to the recording and validating of process operator performance for potential certification.

## **Strategy**

The core concepts of process simulation make the technology a basis for other potential process improvement activities, such as Advanced Process Control and Process Optimization, which is where some of the major GSE competition has more business focus than for operator training. GSE will continue to emphasize its operator training focus and strengths, as well as the application of the process simulator for change management, where changes in the process, control strategy, or operating procedures can be evaluated in real time before they are applied to the actual process units. On-stream time is an important economic factor, and there is recognizable value in avoiding the risk of unplanned process disturbances from invalidated changes. Combining the training expertise in chemical process and manufacturing industries from General Physics, the Company will have access to more potential customers to offer a Total Training Solution which includes both a simulator from GSE and a training program from General Physics.

## **Competition and Competitive Advantage**

GSE's competitors are a varied group. There are major corporations offering a wide range of products and services that include operator training simulators. There are also companies focused on Process Technology and manufacturing enhancement, such as ABB and Honeywell who are DCS distributors to the refining industry and provide operator simulation as part of their DCS offering. There is a collection of companies with specific industry niches that enables them to compete in operator training simulation, such as Invensys and RSI. There are also the smaller training companies that compete at the lower cost levels of Computer Based Training (CBT) or simple simulations close to CBT.

The GSE focus on training simulation is a business strength, and its vendor independence, with the ability to integrate to different vendor's process control systems, is also a value which is appreciated by customers. GSE can be seen as a best-of-breed type of supplier because it is not tied to a major control system, nor is it providing simulation software for engineering and business management with high annual license fees.

## **Sales and Marketing**

The Company will market its Process Simulation technologies through a combination of techniques including its existing direct sales channel, sales agents, and strategic alliance partners.

## **US Government Simulation**

### **Industry**

With the increasing demand to improve Homeland Security, all levels of government and civil emergency management personnel need to be trained in responding to manmade or natural disasters. Since an Emergency Operations Center (EOC) is not permanently staffed, there is a significant loss of proficiency between disasters. When a disaster happens, the staff must assimilate many streams of data at once and make decisions based upon the facts presented to them.

Today, training is accomplished in one of two ways. First is the tabletop exercise, where the EOC staff sits around a table and a scenario is presented to them and they must think through the steps to take and articulate a response. Experts are there to record the exercise and provide after action analysis. The second is a very costly exercise utilizing civil authorities and support organizations such as fire, police, civil works, hospitals, National Guard etc. These are extremely expensive and time consuming exercises in terms of manpower resources and after action analysis.

There are EOC facilities at the municipal, state and federal level.

### **GSE's Solution**

GSE has utilized its over 30 years of experience in real-time simulation modeling and operations personnel training to produce the Real-time Emergency Management Interactive Training System (REMITS). REMITS is a PC-based real-time simulation software for training EOC staff for emergency response. It is modular in design, versatile and scalable to the specific training objectives. It can interface with emergency management software such that the REMITS training environment will be identical to the actual EOC, thus allowing the emergency staff to use and train on the actual systems they will use in the event of a disaster. This provides the same level of stress and intensity as experienced in a real emergency scenario. REMITS can perform Individual Skills Training in the familiarization of EOC equipment and procedures for different emergency scenarios. Leadership training can be accomplished to teach effective command and control over available assets. Finally, Team Collaboration Training enables the staff to train on effective communications, moving resources and working with constrained equipments and assets.

### **Strategy**

GSE is working closely with various partner companies to develop new business in the Homeland Security industry. One company, General Physics, a GSE affiliate, has over 12 years of experience in training corporate and public sector HAZMAT First Responders nationwide, 20 years of operations/training support to the Army's Chemical Weapons Disposal Program, 15 years performing environmental compliance and biological/chemical remediation and five years support to the Department of Homeland Security (DHS), Office of Domestic Preparedness (ODP) Equipment and Training Programs. Combining the Homeland Security related expertise of General Physics and GSE's EOC simulator product REMITS, the Company is aggressively pursuing business in the government sector, local, state and federal.

### **Competition**

GSE's competitors are unclear at this time. There are similar products being developed for the market but most of them are either designed for military usage or do not provide the extensive training features for civilian emergency response training exercises.

### **Sales and Marketing**

GSE will market its product in the U.S. Homeland Security industry through its existing sales channels and foreign markets through existing power simulation partners and agents.

### **US Military Simulation**

#### **Industry**

It is estimated that the US Government averages yearly simulation procurements of over \$4 billion for its military complex. The simulation services range from building new simulators, to upgrading and re-hosting existing simulators, to maintaining the installed base. The simulators are for Air Force and Naval planes and helicopters, Navy ships and shipboard systems, and Army tanks, trucks and ordinance systems, among many other applications.

### **GSE's Solution**

The Company's core simulation products and expertise have been judged by the marketplace as superior. The recent selection by the US Navy to utilize GSE's technology and platform on its long term Nuclear Navy program is a testament to support this statement. Our intention is to package these core simulation products and expertise for military applications, and promote our long term history of building, upgrading and maintaining simulators since the year 1929.

### **Strategy**

In this market, it is critical to have past government performance and a government contracting infrastructure. GSE's past performance is not extensive, and prior to 2004, a government infrastructure did not exist. In regards to creating a government business-focused infrastructure, the Company's strategy entails recruiting personnel with significant government experience, and building the necessary contract, security, finance and marketing functions. This work was accomplished in 2004, and the Company is now positioned to market and bid government projects of any size. In regard to past performance, the Company's strategy relies on forming teams where the expertise of one or more companies are forged together to provide a more effective solution to the government. This is a common practice in government contracting. Over the course

of 2004, GSE established teaming relationships with twelve companies, and has several active proposal efforts with these partners. The partner companies provide expertise that does not exist within GSE such as F-16 avionics expertise, aircraft systems expertise, Abrams tank fire control system expertise, etc.

## **Competition and Competitive Advantage**

The competitors in this market range from very large companies like Lockheed Martin and Northrup Grumman to government defined small and disadvantaged businesses such as Eshota (Indian Nation) and DEI (small, minority owned). GSE maintains a price advantage over the larger competitors in that it maintains a lower overhead structure and charges the government lower pass through costs on its subcontractors and materials. It maintains a technology and stability advantage, in most cases, over the smaller competitors. The competition in this fertile area is fierce, and it takes a combination of superior technology, competitive pricing and the ability to develop effective teams to succeed. The Company invested heavily in 2004 on developing these teams, and believes it is well positioned to take advantage of this investment in 2005.

### **Competitive Advantages.**

The Company believes that it is in a strong position to compete in the Simulation markets based upon the following strengths:

\* **Technical and Applications Expertise.** GSE is a leading innovator and developer of real-time software with more than 30 years of experience producing high fidelity real-time simulators. As a result, the Company has acquired substantial applications expertise in the energy and industrial process industries. The Company employs a highly educated and experienced multinational workforce of 144 employees, including approximately 84 engineers and scientists. Approximately 60% these engineers and scientists have advanced science and technical degrees in fields such as chemical, mechanical and electrical engineering, applied mathematics and computer sciences.

\* **Proprietary Software Tools.** GSE has developed a library of proprietary software tools including auto-code generators and system models that substantially facilitate and expedite the design, production and integration, testing and modification of software and systems. These tools are used to automatically generate the computer code and systems models required for specific functions commonly used in simulation applications, thereby enabling it or its customers to develop high fidelity real-time software quickly, accurately and at lower costs.

\* **Open System Architecture.** GSE's software products and tools are executed on standard operating systems with third-party off-the-shelf hardware. The hardware and operating system independence of its software enhances the value of its products by permitting customers to acquire less expensive hardware and operating systems. The Company's products work in the increasingly popular Microsoft operating environment, allowing full utilization and integration of numerous off-the-shelf products for improved performance.

\* **International Strengths.** Approximately 65% of the Company's 2004 revenue was derived from international sales of its products and services. GSE has a multinational sales force with offices located in Beijing, China, Nykoping, Sweden, and Tokyo, Japan and agents and representatives in 22 other countries. To capitalize on international opportunities and penetrate foreign markets, the Company has established strategic alliances and partnerships with several foreign entities.

### **Intellectual Property.**

The Company depends upon its intellectual property rights in its proprietary technology and information. GSE maintains a portfolio of patents, trademarks (both registered and unregistered), copyrights (both registered and unregistered), and licenses. While such patents, trademarks, copyrights and licenses as a group are of material importance to the Company, it does not consider any one patent, trademark, copyright, or license to be of such importance that the loss or expiration thereof would materially affect any segment or the Company as a whole. The Company relies upon a combination of trade secrets, copyright, patent and trademark law, contractual arrangements and technical means to protect its intellectual property rights. GSE distributes its software products under software license agreements that grant customers nonexclusive licenses for the use of its products, which are nontransferable. Use of the licensed software is restricted to designated computers at specified sites, unless the customer obtains a site license of its use of the software. Software and hardware security measures are also employed to prevent unauthorized use of the Company's software, and the licensed software is subject to terms and conditions prohibiting unauthorized reproduction of the software.

The Company has several U.S. patents that were issued in the 1996 timeframe, none of which (individually or collectively) have a significant role in the Company's current business operations. In accordance with Title 35 U.S. Code Section 154, these patents have a duration of 20 years from the filing date of the application, subject to any statutory extension, provided they are properly maintained. The Company believes that all of the Company's trademarks (especially those that use the phrase "GSE Systems") are valid and will have an unlimited duration as long as they are adequately protected and sufficiently used. The Company's licenses are perpetual in nature and will have an unlimited duration as long as they are adequately protected and the parties adhere to the material terms and conditions.

GSE has eight registered U.S. trademarks: RETACT, GSE Systems, THOR, OpenSim, Smart Tutor, SimSuite Pro, ESmart and GAARDS. Some of these trademarks have also been registered in foreign countries. The Company also claims trademark rights to GLOW+, GLOGIC+, GCONTROL+, GPower+, SimSuite Power, SimExec, eXtreme I/S, RACS, PEGASUS Plant Surveillance and Diagnosis System, SIMON, BRUS, Sens Base and Vista PIN.

In addition, the Company maintains federal statutory copyright protection with respect to its software programs and products, has registered

copyrights for some of the documentation and manuals related to these programs, and maintains trade secret protection on its software products.

Despite these protections, the Company cannot be sure that it has protected or will be able to protect its intellectual property adequately, that the unauthorized disclosure or use of its intellectual property will be prevented, that others have not or will not develop similar technology independently, or, to the extent it owns patents, that others have not or will not be able to design around those patents. Furthermore, the laws of certain countries in which the Company's products are sold do not protect its products and intellectual property rights to the same extent as the laws of the United States.

## Industries Served.

The following chart illustrates the approximate percentage of the Company's 2004, 2003, and 2002 revenues by industries served:

	2004	2003	2002
Nuclear power industry	85%	89%	86%
Fossil power industry	10%	9%	12%
Other	5%	2%	2%
Total	100%	100%	100%

## Contract Backlog.

The Company does not reflect an order in backlog until it has received a contract that specifies the terms and milestone delivery dates. As of December 31, 2004, the Company's aggregate contract backlog totaled approximately \$19.6 million. Approximately \$13.5 million or 69% of the backlog is expected to be converted to revenue by December 31, 2005. As of December 31, 2003, the Company's aggregate contract backlog totaled approximately \$30.4 million.

## Employees.

As of December 31, 2004, the Company had 144 employees as compared to 146 employees at December 31, 2003.

## Segment Information.

Following the disposition of the Process business, the Company operates in one business segment.

## RISK FACTORS.

The Company has limited cash resources. If the Company is unable to generate adequate cash flow from operations, it will need additional capital to fund its operations.

For the years ended December 31, 2002 and 2003, the Company experienced net losses from continuing operations of \$4.3 million and \$1.9 million, respectively, and has only \$82,000 income from continuing operations for the year ended December 31, 2004. The Company's backlog has decreased from \$30.4 million at December 31, 2003 to \$19.6 million at December 31, 2004. Although the Company has a credit facility of \$1.5 million, which had not been utilized at December 31, 2004, if the Company's income from continuing operations does not improve, it may need additional capital to fund its operations. If adequate funds are not available, GSE may be required to curtail its operations.

The Company's expense levels are based upon its expectations as to future revenues, so it may be unable to adjust spending to compensate for a revenue shortfall. Accordingly, any revenue shortfall would likely have a disproportionate effect on the Company's operating results.

The Company's operating results have fluctuated in the past and may fluctuate significantly in the future as a result of a variety of factors, including purchasing patterns, timing of new products and enhancements by the Company and its competitors, and fluctuating foreign economic conditions. Since the Company's expense levels are based in part on its expectations as to future revenues, the Company may be unable to adjust spending in a timely manner to compensate for any revenue shortfall and such revenue shortfalls would likely have a disproportionate adverse effect on operating results. The Company believes that these factors may cause the market price for its common stock to fluctuate, perhaps significantly. In addition, in recent years the stock market in general, and the shares of technology companies in particular, have experienced extreme price fluctuations. The Company's common stock has also experienced a relatively low trading volume, making it further susceptible to extreme price fluctuations.

## Risk of International Sales and Operations.

Sales of products and the provision of services to end users outside the United States accounted for approximately 65.1% of the Company's consolidated revenue in 2004. The Company anticipates that international sales and services will continue to account for a significant portion of its revenue in the foreseeable future. As a result, the Company may be subject to certain risks, including risks associated with the application and imposition of protective legislation and regulations relating to import or export (including export of high technology products) or otherwise resulting from trade or foreign policy and risks associated with exchange rate fluctuations. Additional risks include potentially adverse tax consequences, tariffs, quotas and other barriers, potential difficulties involving the Company's strategic alliances and managing foreign sales agents or representatives and potential difficulties in accounts receivable collection. The Company currently sells products and provides services to customers in emerging market economies such as Russia, Ukraine, Bulgaria, and the Czech Republic. Although end users in the Ukraine accounted for 20.7%, 28.7%, and 22.8% of the Company's consolidated revenue in 2004, 2003, and 2002, respectively, GSE's customer for these projects was Battelle's Pacific Northwest National Laboratory, which is the purchasing agent for the U.S. Department of Energy. The DOE provides funding for various projects in Eastern and Central Europe. Accordingly, the Company is not subject to the political

and financial risks that are normally faced when doing business in the Ukraine. The Company has taken steps designed to reduce the additional risks associated with doing business in these countries, but the Company believes that such risks may still exist and include, among others, general political and economic instability, lack of currency convertibility, as well as uncertainty with respect to the efficacy of applicable legal systems. There can be no assurance that these and other factors will not have a material adverse effect on the Company's business, financial condition or results of operations.

The Company relies on one customer for a substantial portion of its revenue. The loss of this customer would have a material adverse effect upon the Company's revenues and results of operations.

For the years ended December 31, 2004, 2003, and 2002, one Power Simulation customer (Battelle's Pacific Northwest National Laboratory) accounted for approximately 24.0%, 28.7%, and 22.8%, respectively, of the Company's consolidated revenue. The Pacific Northwest National Laboratory is the purchasing agent for the Department of Energy and the numerous projects the Company performs in Eastern and Central Europe. If the Company lost this customer, the Company's revenue and results of operations would be materially and adversely affected.

The Company's business is substantially dependent on sales to the nuclear power industry. Any disruption in this industry would have a material adverse effect upon the Company's revenue.

In 2004, 85% of GSE's revenue was from customers in the nuclear power industry. The Company will continue to derive a significant portion of its revenue from customers in the nuclear power industry for the foreseeable future. The Company's ability to supply nuclear power plant simulators and related products and services is dependent on the continued operation of nuclear power plants and, to a lesser extent, on the construction of new nuclear power plants. A wide range of factors affect the continued operation and construction of nuclear power plants, including the political and regulatory environment, the availability and cost of alternative means of power generation, the occurrence of future nuclear incidents, and general economic conditions.

The Company's debt agreement imposes significant operating and financial restrictions, which may prevent it from capitalizing on business opportunities.

GSE's debt agreement imposes significant operating and financial restrictions. These restrictions affect, and in certain cases limit, among other things, the Company's ability to:

- \* incur additional indebtedness and liens;
- \* make capital expenditures;
- \* make investments and acquisitions and sell assets;
- \* consolidate, merge or sell all or substantially all of its assets.

There can be no assurance that these restrictions will not adversely affect the Company's ability to finance its future operations or capital needs or to engage in other business activities that may be in the interest of stockholders.

The Company is dependent on product innovation and research and development, which costs are incurred prior to revenues for new products and improvements.

The Company believes that its success will depend in large part on its ability to maintain and enhance its current product line, develop new products, maintain technological competitiveness and meet an expanding range of customer needs. The Company's product development activities are aimed at the development and expansion of its library of software modeling tools, the improvement of its display systems and workstation technologies, and the advancement and upgrading of its simulation technology. The life cycles for software modeling tools, graphical user interfaces, and simulation technology are variable and largely determined by competitive pressures. Consequently, the Company will need to continue to make significant investments in research and development to enhance and expand its capabilities in these areas and to maintain its competitive advantage.

The Company relies upon its intellectual property rights for the success of its business; however, the steps it has taken to protect its intellectual property may be inadequate.

Although the Company believes that factors such as the technological and creative skills of its personnel, new product developments, frequent product enhancements and reliable product maintenance are important to establishing and maintaining a technological leadership position, the Company's business depends, in part, on its intellectual property rights in its proprietary technology and information. The Company relies upon a combination of trade secret, copyright, patent and trademark law, contractual arrangements and technical means to protect its intellectual property rights. The Company enters into confidentiality agreements with its employees, consultants, joint venture and alliance partners, customers and other third parties that are granted access to its proprietary information, and limits access to and distribution of its proprietary information. There can be no assurance, however, that the Company has protected or will be able to protect its proprietary technology and information adequately, that the unauthorized disclosure or use of the Company's proprietary information will be prevented, that others have



not or will not develop similar technology or information independently, or, to the extent the Company owns patents, that others have not or will not be able to design around those patents. Furthermore, the laws of certain countries in which the Company's products are sold do not protect the Company's products and intellectual property rights to the same extent as the laws of the United States.

The industries in which GSE operates are highly competitive. This competition may prevent the Company from raising prices at the same pace as its costs increase.

The Company's businesses operate in highly competitive environments with both domestic and foreign competitors, many of whom have substantially greater financial, marketing and other resources than the Company. The principal factors affecting competition include price, technological proficiency, ease of system configuration, product reliability, applications expertise, engineering support, local presence and financial stability. The Company believes that competition in the simulation fields may further intensify in the future as a result of advances in technology, consolidations and/or strategic alliances among competitors, increased costs required to develop new technology and the increasing importance of software content in systems and products. The Company believes that its technology leadership, experience, ability to provide a wide variety of solutions, product support and related services, open architecture and international alliances will allow it to compete effectively in these markets. As the Company's business has a significant international component, changes in the value of the dollar could adversely affect the Company's ability to compete internationally.

GSE will continue to pursue new acquisitions and joint ventures, and any of these transactions could adversely affect its operating results or result in increased costs or other problems.

The Company intends to continue to pursue new acquisitions and joint ventures, a pursuit which could consume substantial time and resources. Identifying appropriate acquisition candidates and negotiating and consummating acquisitions can be a lengthy and costly process. The Company may also encounter substantial unanticipated costs or other problems associated with the acquired businesses. The risks inherent in this strategy could have an adverse impact on the Company's results of operation or financial condition.

The nuclear power industry, the Company's largest customer group, is associated with a number of hazards which could create significant liabilities for the Company.

The Company's business could expose it to third party claims with respect to product, environmental and other similar liabilities. Although the Company has sought to protect itself from these potential liabilities through a variety of legal and contractual provisions as well as through liability insurance, the effectiveness of such protections has not been fully tested. Certain of the Company's products and services are used by the nuclear power industry primarily in operator training. Although the Company's contracts for such products and services typically contain provisions designed to protect the Company from potential liabilities associated with such use, there can be no assurance that the Company would not be materially adversely affected by claims or actions which may potentially arise.

The Company is controlled by the Company's principal stockholder, whose interests may not be aligned with those of the Company's other stockholders.

As of March 15, 2005, GP Strategies Corporation owns approximately 58% of GSE's outstanding common stock. Accordingly, GP Strategies controls the Company's business and affairs, including the election of individuals to the board of directors, and the outcome of actions that require stockholder approval including mergers, sales of assets, and to prevent, or to cause, a change of control of the Company.

On January 1, 2004, the Company entered into a Management Services Agreement with GP Strategies Corporation in which GP Strategies agreed to provide corporate support services to GSE, including accounting, finance, human resources, legal, network support and tax. In addition, GSE uses General Physics' financial system. (General Physics is a GP Strategies subsidiary.) In 2004, GSE was charged \$685,000 for General Physics' services. The agreement has been extended through December 31, 2005 without an increase in the fee. The agreement can be renewed for successive one-year terms.

## **ITEM 2. PROPERTIES.**

The Company is headquartered in a facility in Columbia, Maryland (approximately 53,000 square feet). The lease for this facility expires in 2008.

In addition, the Company leases office space domestically in Georgia and internationally in China, Japan, and Sweden. The Company leases these facilities for terms ending between 2006 and 2007.

In September 2001, the Company entered into a sublease agreement with ManTech International, Inc. in which ManTech subleases 1,432 sq. feet of space in the Columbia, Maryland facility. The sublease is currently on a month to month basis.

In September 2001, the Company entered into a sublease agreement with MECx in which MECx subleases 2,088 sq. feet of space in the Columbia, Maryland facility. The sublease is currently on a month to month basis.

In conjunction with the move of its Process Automation business to its Columbia, Maryland facility in May 2003, the Company subleased most

of its vacated facility in Baltimore, Maryland to Alpharma USPD Inc. for a five-year period, although Alpharma could terminate the lease at the end of the second year provided a six-month notice was given. In October, 2004, Alpharma notified the Company that they will terminate the sublease on April 30, 2005. The Company's broker is actively seeking another subtenant, and management believes that a subtenant will be found prior to the end of the sublease. However, if a subtenant is not found or the terms of a new subtenant lease arrangement are not consistent with those of the Alpharma lease, the Company may be required to record an additional charge related to the lease for the vacated facility. The Company's lease, which expires July, 2008, requires annual rent of approximately \$550,000. The Company currently has a loss accrual of \$158,000.

In conjunction with the sale of the Process business to Novatech LLC in September 2003, the Company entered into a sublease agreement with Novatech to sublease a portion of the Columbia, Maryland facility for a one-year period. The sublease is currently on a month to month basis.

### ITEM 3. LEGAL PROCEEDINGS.

The Company is from time to time involved in legal proceedings incidental to the conduct of its business. The Company currently is not a party to legal proceedings that, in the opinion of management, are likely to have a material adverse effect on the Company's business, financial condition or results of operations.

### ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.

No matter was submitted to a vote of security holders during the quarter ended December 31, 2004.

## PART II

### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS.

The following table sets forth, for the periods indicated, the high and low sale prices for the Company's common stock reported by the American Stock Exchange:

2004		
Quarter	High	Low
First	\$ 2.33	\$ 1.72
Second	\$ 2.70	\$ 1.45
Third	\$ 2.78	\$ 2.35
Fourth	\$ 2.70	\$ 1.95

  

2003		
Quarter	High	Low
First	\$ 1.62	\$ 1.05
Second	\$ 1.71	\$ 1.05
Third	\$ 2.13	\$ 1.25
Fourth	\$ 2.08	\$ 1.57

The following table sets forth the equity compensation plan information for the year ended December 31, 2004:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plan approved by security holders	1,866,776	\$3.96	686,844
Equity compensation plan not approved by security holders	--	---	--
<b>Total</b>	<b>1,866,776</b>	<b>\$3.96</b>	<b>686,844</b>

The Company's common stock is listed on the American Stock Exchange, where it trades under the symbol "GVP".

There were approximately 33 holders of record of the common stock as of March 1, 2005. Based upon information available to it, the Company believes there are approximately 800 beneficial holders of the common stock. The Company has never declared or paid a cash dividend on its common stock. The Company currently intends to retain future earnings to finance the growth and development of its business and, therefore, does not anticipate paying any cash dividends in the foreseeable future on its common stock. In December 2001, the Company issued to ManTech International Corp. 39,000 shares of convertible preferred stock which accrued dividends at an annual rate of 6% payable quarterly. ManTech elected to convert the preferred stock to common stock in October 2003. At the date of the conversion, the Company's credit facility restricted the Company from paying any dividends on the preferred stock. At December 31, 2004, the Company had accrued dividends payable to ManTech of \$366,000. The unpaid dividends accrue interest at 6% per annum. At December 31, 2004 the Company had an accrual for interest payable of \$38,000.

The Company believes factors such as quarterly fluctuations in results of operations and announcements of new products by the Company or by its competitors may cause the market price of the common stock to fluctuate, perhaps significantly. In addition, in recent years the stock market in general, and the shares of technology companies in particular, have experienced extreme price fluctuations. The Company's common stock has also experienced a relatively low trading volume, making it further susceptible to extreme price fluctuations. These factors may adversely affect the market price of the Company's common stock.

#### **ITEM 6. SELECTED FINANCIAL DATA.**

Historical consolidated results of operations and balance sheet data presented below have been derived from the historical financial statements of the Company. This information should be read in connection with the Company's consolidated financial statements.

(in thousands, except per share data)	Years ended December 31,				
	2004	2003	2002	2001	2000
Contract revenue	\$ 29,514	\$ 25,019	\$ 20,220	\$ 25,509	\$ 30,507
Cost of revenue	22,715	19,175	16,660	19,744	21,708
Gross profit	6,799	5,844	3,560	5,765	8,799
Operating expenses:					
Selling, general and administrative	6,517	6,443	6,506	6,036	7,981
Depreciation and amortization	280	392	395	1,098	872
Total operating expenses	6,797	6,835	6,901	7,134	8,853
Operating income (loss)	2	(991)	(3,341)	(1,369)	(54)
Interest expense, net	(176)	(504)	(55)	(469)	(174)
Other income (expense), net	316	(273)	37	442	55
Loss from continuing operations before income taxes	142	(1,768)	(3,359)	(1,396)	(173)
Provision (benefit) for income taxes	60	93	891	(153)	541
Income (loss) from continuing operations	82	(1,861)	(4,250)	(1,243)	(714)
Income (loss) from discontinued operations, net of income taxes	-	(1,409)	(1,693)	1,502	(8,100)
Income (loss) on sale of discontinued operations, net of income taxes	36	(262)	-	-	-
Income (loss) from discontinued operations	36	(1,671)	(1,693)	1,502	(8,100)
Net income (loss)	\$ 118	\$ (3,532)	\$ (5,943)	\$ 259	\$ (8,814)
Basic income (loss) per common share:					
Continuing operations	\$ 0.01	\$ (0.61)	\$ (0.76)	\$ (0.24)	\$ (0.14)
Discontinued operations	0.00	(0.26)	(0.29)	0.29	(1.56)
Net income (loss)	\$ 0.01	\$ (0.87)	\$ (1.05)	\$ 0.05	\$ (1.70)
Diluted income (loss) per common share:					
Continuing operations	\$ 0.01	\$ (0.61)	\$ (0.76)	\$ (0.24)	\$ (0.14)
Discontinued operations	0.00	(0.26)	(0.29)	0.29	(1.56)
Net income (loss)	\$ 0.01	\$ (0.87)	\$ (1.05)	\$ 0.05	\$ (1.70)
Weighted average common shares outstanding:					
-Basic	8,950	6,542	5,863	5,217	5,182
-Diluted	9,055	6,542	5,863	5,259	5,182
	As of December 31,				
	2004	2003	2002	2001	2000
Working capital	\$ 2,658	\$ 2,537	\$ 6,036	\$ 7,063	\$ 5,522
Total assets	14,228	16,536	28,894	33,674	35,949
Long-term liabilities	502	441	9,617	7,263	12,390
Stockholders' equity	5,945	5,679	8,111	13,852	8,713

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

In September 2003, the Company completed the sale of substantially all of the assets of GSE Process Solutions, Inc. (Process) to Novatech, LLC (Novatech) pursuant to an Asset Purchase Agreement, effective as of September 25, 2003, by and between the Company, Process and Novatech. The Company received \$5.5 million in cash, subject to certain adjustments. The operating results of the Company's Process business have been classified as discontinued operations in the Consolidated Statements of Operations for all periods presented. Following the sale of Process, the Company operates only in the Simulation business.

On September 29, 2003, the Company amended the ManTech Preferred Stock issuance agreement to revise the conversion rate from \$2.645 per share to \$1.5526 per share. The change in conversion rate increased the number of common shares available upon conversion from 1,474,480 to 2,511,915. On October 23, 2003 ManTech elected to convert all of its preferred stock to common stock and sold all of its GSE common stock and subordinated debt to GP Strategies. The terms of the \$650,000 subordinated note were amended by the Company to allow the conversion of the subordinated debt to GSE common stock at a rate of \$1.5526 which was below the market rate (\$1.88) on the date the amendment was adopted. GP Strategies elected to convert the note on October 23, 2003 and received 418,653 shares of GSE common stock. As a result of these transactions, GSE became a 58%-owned subsidiary of GP Strategies.

The Company enters 2005 with no bank debt and only \$9,000 of other notes payable. However, the Company's backlog has decreased 36% in 2004, and the Company is investing heavily in business development activities to expand its simulation business into the Homeland Security and US Military industries. The Company expects to improve its profitability in 2005, and the Company's cash flow is expected to be sufficient for its operating needs during 2005 although the Company will utilize its line of credit during 2005. However, the Company's liquidity can be affected by any of the following significant risk factors:

\* The Company's business is substantially dependent on sales to the nuclear power industry (85% of revenue in 2004). Spending by companies in this targeted industry is subject to period-to-period fluctuations as a consequence of industry cycles, economic conditions, political and regulatory environments and other factors.

\* The Company's efforts to expand its simulation business into the Homeland Security and US Military industries may not generate sufficient revenues and margins in 2005 to offset the increased business development spending.

\* The Company relies on one customer, Battelle's Pacific Northwest National Laboratory (24% of revenue in 2004) for a substantial portion of its revenues. The loss of this customer would have a material adverse effect upon the Company's liquidity.

\* Sales of products and the provision of services to end users outside the United States accounted for approximately 65% of the Company's revenue in 2004. Thus, the Company is subject to risks associated with the application and imposition of protective legislation and regulations relating to import or export or otherwise resulting from trade or foreign policy.

### Critical Accounting Policies and Estimates.

As further discussed in Note 2 to the consolidated financial statements, in preparing the Company's financial statements, management makes several estimates and assumptions that affect the Company's reported amounts of assets, liabilities, revenues and expenses. Those accounting estimates that have the most significant impact on the Company's operating results and place the most significant demands on management's judgment are discussed below. For all of these policies, management cautions that future events rarely develop exactly as forecast, and the best estimates may require adjustment.

**Revenue Recognition on Long-Term Contracts.** The Company uses the percentage-of-completion revenue recognition methodology to record revenue under its long-term fixed-price contracts in accordance with the AICPA Statement of Position 81-1, Accounting for Performance of Construction-Type and Certain Production-Type Contracts. This methodology recognizes income as work progresses on the contract and is based on an estimate of the income earned to date, less income recognized in earlier periods. The Company bases its estimate of the degree of completion of the contract by reviewing the relationship of costs incurred to date to the expected total costs that will be incurred on the project. The Company's project managers are responsible for estimating the costs to be incurred at the beginning of each project and are responsible for updating the estimate as the project progresses. Management reviews the status of each project periodically with the project managers and determines whether the cost estimates are reasonable. If changes in the estimated costs to complete the projects are required, the cumulative impact on the percentage of completion revenue calculation is recognized in the period identified. Whenever evidence indicates that the estimated total cost of a contract will exceed its total contract value, the Company's operating results are charged for the full amount of the estimated losses immediately. Uncertainties inherent in the performance of contracts include labor availability and productivity, material costs, change order scope and pricing, software modification and customer acceptance issues. The reliability of these cost estimates is critical to the Company's revenue recognition as a significant change in the estimates can cause the Company's revenue and related margins to change significantly from the amounts estimated in the early stages of the project.

**Capitalization of Computer Software Development Costs.** In accordance with Statement of Financial Accounting Standards (SFAS) No. 86 Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed, the Company capitalizes computer software development costs incurred after technological feasibility has been established, but prior to the release of the software product for sale to customers. Once the product is available to be sold, the Company begins to amortize the costs over the estimated useful life of the product, which normally ranges from three to five years. At December 31, 2004, the Company has net capitalized software development costs of \$909,000. On an annual basis, the Company assesses the recovery of the unamortized software computer costs by estimating the net

undiscounted cash flows expected to be generated by the sale of the product. If the undiscounted cash flows are not sufficient to recover the unamortized software costs the Company will write-down the investment to its estimated fair value based on future discounted cash flows. The excess of any unamortized computer software costs over the related net realizable value is written down and charged to income. Significant changes in the sales projections could result in an impairment with respect to the capitalized software that is reported on the Company's consolidated balance sheet.

**Deferred Income Tax Valuation Allowance.** Deferred income taxes arise from temporary differences between the tax bases of assets and liabilities and their reported amounts in the financial statements. As required by SFAS No. 109 Accounting for Income Taxes, management makes a periodic assessment of the realizability of the Company's deferred tax assets. In making this assessment, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities and projected future taxable income of the Company in making this assessment. A valuation allowance is recorded to reduce the total deferred income tax assets to its net realizable value. At December 31, 2004, the Company's deferred tax assets related primarily to a U.S. net operating loss carryforward of \$16.1 million which expires in various amounts over the next twenty years. The amount of loss carryforward which can be used by the Company may be limited to approximately \$500,000 annually. Other than the net deferred tax assets that are related to the Company's Swedish subsidiary, the recovery of the net deferred tax asset could not be substantiated by currently available objective evidence. Accordingly, the Company has established an \$8.7 million valuation allowance for the deferred tax assets that are not related to the Swedish subsidiary. The valuation allowance will be reduced if the Company's US operations are able to realize taxable income in the future.

### Results of Operations.

The following table sets forth the results of operations for the periods presented expressed in thousands of dollars and as a percentage of revenues.

	Years ended December 31,					
	2004	%	2003	%	2002	%
Contract revenue	\$ 29,514	100.0 %	\$ 25,019	100.0 %	\$ 20,220	100.0 %
Cost of revenue	22,715	76.9 %	19,175	76.6 %	16,660	82.4 %
Gross profit	6,799	23.1 %	5,844	23.4 %	3,560	17.6 %
Operating expenses:						
Selling, general and administrative	6,517	22.1 %	6,443	25.8 %	6,506	32.2 %
Depreciation and amortization	280	1.0 %	392	1.6 %	395	1.9 %
Total operating expenses	6,797	23.1 %	6,835	27.4 %	6,901	34.1 %
Operating income (loss)	2	0.0 %	(991)	(4.0)%	(3,341)	(16.5)%
Interest expense, net	(176)	(0.6)%	(504)	(2.0)%	(55)	(0.3)%
Other income (expense), net	316	1.1 %	(273)	(1.1)%	37	0.2 %
Income (loss) from continuing operations before income taxes	142	0.5 %	(1,768)	(7.1)%	(3,359)	(16.6)%
Provision for income taxes	60	0.2 %	93	0.3 %	891	4.4 %
Income (loss) from continuing operations	82	0.3 %	(1,861)	(7.4)%	(4,250)	(21.0)%
Loss from discontinued operations, net of income taxes	-	0.0 %	(1,409)	(5.6)%	(1,693)	(8.4)%
Income (loss) on sale of discontinued operations, net of income taxes	36	0.1 %	(262)	(1.1)%	-	0.0 %
Income (loss) from discontinued operations	36	0.1 %	(1,671)	(6.7)%	(1,693)	(8.4)%
Net income (loss)	\$ 118	0.4 %	\$ (3,532)	(14.1)%	\$ (5,943)	(29.4)%

### Comparison of 2004 to 2003.

**Contract Revenue.** Revenue for the year ended December 31, 2004 was \$29.5 million versus \$25.0 million for the year ended December 31, 2003, an 18.0% increase. The increase reflects the significant order volume logged in 2003. At December 31, 2004, the Company's backlog was \$19.6 million of which approximately \$13.5 million will be recognized as revenue in 2005.

**Gross Profit** For the year ended December 31, 2004, gross profit increased from \$5.8 million (23.4% of revenue) for the year ended December 31, 2003 to \$6.8 million (23.1% of revenue) for the year ended December 31, 2004. The slight decrease in gross profit percentage is mainly attributable to adjustments made by the Company in the third quarter 2004 to the estimated costs to complete several of its long-term contracts which resulted in a net reduction of the project-to-date revenue and gross profit recognized on the projects of approximately \$288,000. The impact of these adjustments was partially offset by:

\* a 13.7% decrease in the Company's overhead costs in 2004 together with a higher revenue base to recover the Company's relatively fixed overhead costs, and

\* Higher stand-alone license revenue in 2004 (\$1.0 million) as compared to the prior year (\$175,000) which have higher margins than projects.

**Selling, General and Administrative Expenses.** Selling, general and administrative ("SG&A") expenses totaled \$6.5 million for the year ended December 31, 2004, a slight increase from the \$6.4 million spent on SG&A in 2003. Business development costs increased from \$1.8 million for the year ended December 31, 2003 to \$2.8 million in 2004. This reflects the Company's renewed focus on business development in 2004 and the reassignment of four operating personnel into the business development function on January 1, 2004. In addition, the Company hired several consultants in 2004 to assist in the bidding and proposal activities of its new US government and military simulation division. The Company's corporate and G&A expenses decreased from \$4.3 million in 2003 to \$3.5 million in 2004 reflecting the outsourcing of the Company's corporate function to GP Strategies on January 1, 2004. Gross spending on software product development ("development") totaled \$552,000 in the year ended December 31, 2004 as compared to \$856,000 in 2003. The reduction in gross development spending mainly reflects the release of JADE version 2.0 at the end of 2003. JADE is a Java-based application that provides a window into the simulation instructor station and takes advantage of the web capabilities of Java, allowing customers to access the simulator and run simulation scenarios from anywhere they have access to the web.

The Company capitalized \$361,000 of development expenditures in 2004 as compared to \$542,000 in 2003. The Company's development expenditures in 2004, certain of which were capitalized, were related to:

\* The development of new functionality for the Company's Jtools software modeling tools.

\* The modification of the Company's simulation technology to simulate the operation of Emergency Operations Centers (EOC) run by municipal and state governments.

\* The development of a software product that will allow doctors to create digital patient records through the use of a personal digital assistant (PDA) instead of manually recording patient information.

\* The embedding of the Company's full scope simulator software into classroom training materials by segmenting its simulation software into "pieces" so that the software can be utilized to teach specific skills in operating the nuclear electric utilities without the need for control room panels.

\* Additional enhancements to JADE (Java Applications & Development Environment), a Java-based application that provides a window into the simulation station and takes advantage of the web capabilities of Java, allowing customers to access the simulator and run scenarios from anywhere they have access to the web. JADE 3.0 will be release in the second quarter 2005.

The Company anticipates that its gross development spending in 2005 will approximate the same level as 2004. The Company's research and development efforts will focus on the release of JADE 3.0 to incorporate requested enhancements to the Java-based simulation tools.

**Administrative Charges from GP Strategies.** On January 1, 2004, the Company entered into a Management Services Agreement with GP Strategies Corporation in which GP Strategies agreed to provide corporate support services to GSE, including accounting, finance, human resources, legal, network support and tax. In addition, GSE uses General Physics' financial system. (General Physics is a subsidiary of GP Strategies.) In 2004, GSE was charged \$685,000 for General Physics' services. The agreement has been extended through December 31, 2005 without an increase in the fee. The agreement can be renewed for successive one-year terms.

In December 2003, GSE's Board of Directors elected John Moran, a GP Strategies executive with experience in the power industry and simulation technology, as Chief Executive Officer. Mr. Moran continued as a GP Strategies employee throughout most of 2004, although he devoted 100% of his time to the performance of his duties as CEO of GSE. On December 16, 2004, Mr. Moran became a GSE employee. For 2004, GSE was charged \$289,000 by GP Strategies for Mr. Moran's compensation and benefits.

In December 2003, GSE agreed to pay to General Physics approximately \$35,000 for services performed by General Physics personnel in the fourth quarter 2003 for the implementation of the Management Services Agreement discussed above. In addition, GSE was charged \$30,000 by General Physics for coverage under General Physics' directors and officers liability and umbrella insurance for November and December 2003. Finally, GSE was charged \$35,000 by GP Strategies for Mr. Moran's compensation and benefits.

**Depreciation and Amortization.** For the years ended December 31, 2004 and 2003, depreciation expense totaled \$280,000 and \$392,000, respectively. The reduction reflects certain assets becoming fully depreciated.

**Operating Income (Loss).** The Company had an operating income of \$2,000 for the year ended December 31, 2004, as compared with an operating loss of \$991,000 (4.0% of revenue) for the prior year. The variances were due to the factors outlined above.

**Interest Expense, Net.** Net interest expense decreased from \$504,000 in the year ended December 31, 2003 to \$176,000 for the year ended December 31, 2004. Such amounts included amortization of deferred financing costs of \$108,000 and \$111,000, respectively.

In September 2003, the Company paid off its outstanding bank debt from the cash proceeds of the sale of the Process business. The interest expense incurred on the outstanding bank debt in 2003 prior to the pay down was included in the costs of the discontinued business. The Company did not borrow against its \$1.5 million credit facility in 2004.

In March 2003, GP Strategies extended their \$1.8 million limited guarantee of the Company's bank facility for a one-year period. In consideration for the extension of the guarantee, the Company issued 150,000 shares of its common stock to GP Strategies. The number of shares was calculated based upon a 10% fee divided by the closing price of GSE's common shares on March 21, 2003. The cost of the guarantee was amortized over the one-year period; GSE recognized \$45,000 of interest expense in the first quarter 2004 which completed the amortization of these costs.

Other Income (Expense), Net. At December 31, 2004, the Company had contracts for sale of approximately \$4.6 million Japanese Yen at fixed rates. The Company has not designated the contracts as hedges and, accordingly, has recorded the estimated fair value of the contracts of \$203,000 in other income (expense).

In 2003, the Company wrote off the balance of its investment in RedStorm Scientific Inc. (\$279,000) as the Company deemed the decline in the estimated fair value to be other than temporary.

Provision for Income Taxes. The Company's tax provision in 2004 was \$90,000; \$60,000 related to continuing operations and \$30,000 related to discontinued operations. The provision consisted of state taxes of \$18,000, U.S. alternative minimum tax of \$1,000, foreign taxes of \$121,000 and deferred taxes of (\$50,000).

In 2003, the Company recorded an income tax provision of \$119,000; \$93,000 related to the continuing operations and \$26,000 related to discontinued operations. The provision is comprised of foreign and state income taxes. The Company had a full valuation allowance on its deferred income tax assets. The difference between the statutory U.S. tax rate and the Company's effective rate for 2003 was primarily due to an increase in the deferred tax asset valuation reserve and foreign taxes.

Loss from Discontinued Operations, net of income taxes. In September 2003, the Company completed the sale of substantially all of the assets of GSE Process Solutions, Inc. (Process) to Novatech, LLC. (Novatech) pursuant to an Asset Purchase Agreement, effective as of September 25, 2003, by and between the Company, Process and Novatech. The operating results of the Company's Process business prior to the sale have been classified as discontinued operations in the Consolidated Statements of Operations.

For the year ended December 31, 2003, contract revenue for the discontinued Process business was \$13.7 million. Net loss for the discontinued Process business in 2003 was \$1.7 million.

Loss on Sale of Discontinued Operations, net of income taxes. In conjunction with the Company's sale of its Process business in September 2003, the Company received \$5.5 million in cash, subject to certain adjustments. The Company recognized a loss on this transaction of \$262,000. In connection with the transaction, Novatech purchased certain assets with a book value of \$11.7 million and assumed certain operating liabilities totaling approximately \$6.8 million. The Company incurred approximately \$865,000 of closing costs associated with the transaction, including a \$100,000 accrual for possible post-closing claims from Novatech in the twelve months following the sale, as outlined in various provisions of the Asset Purchase Agreement. In the third quarter 2004, the Company reduced the accrual by \$66,000 to management's best estimate of the Company's exposure to loss.

### **Comparison of 2003 to 2002.**

Contract Revenue. Total contract revenue increased 23.7% as compared to the prior year, from \$20.2 million for the year ended December 31, 2002 to \$25.0 million for the year ended December 31, 2003. The increase reflects the receipt of several large international simulator contracts in 2003 which had been delayed in 2002.

Gross Profit. Gross profit totaled \$5.8 million (23.4% of revenue) for the year ended December 31, 2003, as compared with \$3.6 million (17.6% of revenue) for the year ended December 31, 2002. The increase in gross margin reflects higher margins on the Company's fossil utility training simulator projects in 2003 and a higher volume of license sales.

Selling, General and Administrative Expenses. Selling, general and administrative ("SG&A") expenses totaled \$6.4 million in 2003 (25.8% of revenue), a slight decrease from the \$6.5 million (32.2% of revenue) for 2002. The Company reduced its bidding and proposal costs in 2003 as compared to the prior year. Included in 2003 SG&A was \$264,000 of severance, of which \$213,000 had not yet been paid at December 31, 2003 while \$291,000 of severance expense was included in 2002 SG&A. Gross spending on software product development totaled \$856,000 in the year ended December 31, 2003 as compared to \$763,000 in 2002. The increase in the Company's capitalized software development expenditures was related to:

\* The completion of JADE 1.0 (Java Applications & Development Environment), a Java-based application that provides a window into the simulation instructor station and takes advantage of the web capabilities of Java, allowing customers to access the simulator and run simulation scenarios from anywhere they have access to the web. JADE version 1.0 was released for sale on March 31, 2003.

\* Additional enhancements to JADE that were released in version 2.0, including implementing XML file structure in JADE for pagination,



adding wireless PDA for JStation applications, multi-language support, and adding a two phase object oriented flow network. JADE version 2.0 was released at the end of 2003.

The Company capitalized \$542,000 of development expenditures in 2003 as compared to \$555,000 in 2002.

**Administrative Charges from GP Strategies.** On January 1, 2004, the Company entered into a Management Services Agreement with GP Strategies Corporation in which GP Strategies agreed to provide corporate support services to GSE, including accounting, finance, human resources, legal, network support and tax. In addition, GSE began to use General Physics' financial system in 2004.

In December 2003, GSE's Board of Directors elected John Moran, a GP Strategies executive with experience in the power industry and simulation technology, as Chief Executive Officer. Mr. Moran continued as a GP Strategies employee throughout most of 2004, although he devoted 100% of his time to the performance of his duties as CEO of GSE.

In December 2003, GSE agreed to pay to General Physics approximately \$35,000 for services performed by General Physics personnel in the fourth quarter 2003 for the implementation of the Management Services Agreement discussed above. In addition, GSE was charged \$30,000 by General Physics for coverage under General Physics' directors and officers liability and umbrella insurance for November and December 2003. Finally, GSE was charged \$35,000 by GP Strategies for Mr. Moran's compensation and benefits.

**Depreciation and Amortization.** Depreciation expense amounted to \$392,000 and \$395,000 during the years ended December 31, 2003 and 2002, respectively.

**Operating Loss from Continuing Operations.** The Company had an operating loss from continuing operations of \$1.0 million (4.0% of revenue) for the year ended December 31, 2003 as compared with operating loss of \$3.3 million (16.5% of revenue) for the year ended December 31, 2002.

**Interest Expense, Net.** Net interest expense increased 816% from \$55,000 for the year ended December 31, 2002 to \$504,000 in 2003.

In September 2003, the Company paid off its outstanding bank debt from the cash proceeds of the sale of the Process business. The interest expense incurred on the outstanding bank debt in 2003 prior to the pay down and in 2002 has been included in the costs of the discontinued business.

In March, 2003, GP Strategies extended their \$1.8 million limited guarantee of the Company's bank facility for a one-year period. In consideration for the extension of the guarantee, the Company issued 150,000 shares of its common stock to GP Strategies. The number of shares was calculated based upon a 10% fee divided by the closing price of GSE's common shares on March 21, 2003. The cost of the guarantee is being amortized over the one year period; GSE recognized \$135,000 of interest expense in 2003.

The fees paid to the Company's financial institution as consideration for the extension of the Company's credit facility are being amortized over the life of the credit facility. In 2003, the Company recognized \$81,000 of interest expense.

On October 23, 2003, ManTech sold their subordinated promissory note to GP Strategies. The terms of the subordinated note were amended to allow the conversion of the subordinated debt to GSE common stock at a rate of \$1.5526 which was below the market rate (\$1.88) on the date the amendment was adopted. The Company recognized additional interest expense of \$137,000 reflecting the beneficial conversion premium.

In 2002, the Company had received \$23,000 of interest income related to a Federal income tax refund.

**Other Income (Expense), Net.** In 2003, the Company wrote off the balance of its investment in RedStorm Scientific Inc. (\$279,000) as the Company deemed the decline in the estimated fair value to be other than temporary. In 2002 the Company had recognized an equity loss of \$59,000 on its investment in RedStorm. These losses were offset by foreign currency gains in both years and royalty income in 2002.

**Provision for Income Taxes.** In 2003, the Company recorded an income tax provision of \$119,000; \$93,000 related to continuing operations and \$26,000 related to discontinued operations. The provision is comprised of foreign and state income taxes. The Company has a full valuation allowance on its deferred income tax assets. The difference between the statutory U.S. tax rate and the Company's effective rate for 2003 was primarily due to an increase in the deferred tax asset valuation reserve and foreign taxes.

The Company recorded an income tax provision of \$1.4 million in 2002; \$891,000 related to continuing operations and \$498,000 related to discontinued operations. This provision is mainly the result of an increase in the valuation allowance for the Company's deferred income tax assets. The Company established a full valuation allowance since recovery of the deferred tax asset could not be substantiated by currently available objective evidence. The difference between the statutory U.S. tax rate and the Company's effective rate for 2002 was primarily due to the change in the deferred tax asset valuation reserve and foreign taxes.

**Loss from Discontinued Operations.** For the year ended December 31 2003, the Company had an operating loss from discontinued operations of \$1.7 million. The Company's Process business was sold on September 25, 2003. For the nine months ended September 30, 2003, the Process business had a 27% decrease in revenue as compared to the same period in the prior year (\$13.7 million vs \$18.7 million, respectively). The

decrease was mainly attributable to a reduction in orders received from the business' major customer, Westinghouse Savannah River Company. Included in the 2003 operating loss was a \$262,000 loss on the sale of the Process business and a \$115,000 write down of the Company's investment in Avantium International BV.

For the year ended December 31, 2002, the Company had an operating loss from discontinued operations of \$1.7 million. Included in this loss was \$2.8 million from the write down of the Company's investment in Avantium International BV.

### **Liquidity and Capital Resources.**

As of December 31, 2004, GSE had cash and cash equivalents of \$868,000 versus \$1.4 million at December 31, 2003.

Cash from operating activities. For the year ended December 31, 2004, net cash used in operating activities was \$393,000; \$357,000 was used by continuing operations and \$36,000 was used by discontinued operations. Significant changes in the Company's assets and liabilities in 2004 included:

\* a \$734,000 decrease in contracts receivable. The Company invoices customers upon the completion of contract-specified milestones; milestone billings were lower in the fourth quarter 2004 compared to the fourth quarter 2003 due to lower contract activity. The Company's receivables continue to be collected on a timely basis without the need of significant reserves.

\* a \$547,000 reduction in prepaid expenses and other assets. The reduction reflects (1) lower prepaid insurance expense due to the participation of the Company in some of GP Strategies' insurance programs, (2) the collection from Novatech of expenses paid by the Company on behalf of Novatech after the sale of the Process business in 2003 and (3) a reduction in capitalized bank commitment fees.

\* an increase in accounts payable, accrued compensation and accrued expenses of \$200,000. The increase reflects the increase in project activity in 2004 as compared to the prior year and the related increase in obligations to the Company's subcontractors.

\* a decrease in billings in excess of revenues earned by \$2.8 million. In 2003, the Company had entered into a \$6.6 million contract with a Mexican customer for a full scope simulator that allowed the Company to invoice the customer for 20% of the contract upon the receipt of the purchase order as an advance payment. The reduction in billings in excess of revenues earned largely reflects the completion of work which has reduced the Company's liability to the customer for the advance payment.

Net cash provided by operating activities was \$1.4 million for the year ended December 31, 2003; \$506,000 was provided by continuing operations and \$883,000 by discontinued operations. Significant changes in the assets and liabilities of the Company in 2003 included:

\* A \$3.0 million increase in contracts receivable. This increase reflects the higher revenue and backlog in 2003 and the completion of significant billing milestones at year-end.

\* A \$624,000 increase in prepaid expenses and other assets. The increase reflects an advance payment to a subcontractor by the Company on one of its projects and fees incurred in the issuance of project advance payment and performance bonds.

\* A \$2.2 million increase in accounts payable, accrued compensation and accrued expenses. Due to the increased project activity in 2003, purchases of materials and subcontractor labor are at a higher level.

\* A \$3.3 million increase in billings in excess of revenue earned. The increase reflects the receipt of an advance payment of \$1.3 million on one project in 2003 and the timing of milestone billings on several other projects.

Net cash used in operating activities was \$1.2 million for the year ended December 31, 2002; \$1.1 million was used in continuing operations and \$110,000 was used in discontinued operations. The \$1.6 million adjustment of the Company's deferred tax asset valuation allowance was a non-cash item. Significant changes in the assets and liabilities of the Company in 2002 included:

\* A \$1.2 million reduction in contracts receivables, reflecting the lower project activity in 2002.

\* A \$674,000 decrease in billings in excess of revenue earned. The decrease reflects the completion of work in 2002 on the full scope simulator at the Gorskomatom Rivne 2 unit in the Ukraine.

Cash provided by (used in) investing activities. Net cash used in investing activities was \$110,000 for the year ended December 31, 2004, consisting of \$361,000 of capitalized software development costs and \$222,000 of capital expenditures, offset by the expiration of stand-by letters of credit for which the \$473,000 of cash collateral was released. Standby letters of credit are issued by the Company in the ordinary course of business through banks as required by certain contracts and proposal requirements.

Net cash used in investing activities for the year ended December 31, 2003 was \$3.7 million; \$4.2 million provided by continuing operations and \$506,000 used by discontinued operations.

The \$3.7 million provided by continuing operations included \$5.2 million proceeds from the sale of the Process business unit, net of transaction costs, offset by \$515,000 in cash payments of contingent consideration for a prior year acquisition, \$191,000 of capital expenditures, and \$542,000 of capitalized software development costs. Additionally, \$245,000 of cash collateralized stand-by letters of credit expired, and the cash collateral was released.

For 2002, net cash used in investing activities for the year ended December 31, 2002 was \$3.2 million; \$1.2 million used in continuing operations and \$2.0 million used in discontinued operations. The \$983,000 used in continuing operations included \$45,000 in cash payments for an acquired business, \$170,000 of capital expenditures, and \$768,000 of capitalized software development costs. In addition, the Company issued three cash-collateralized stand-by letters of credit totaling \$243,000.

Cash provided by (used in) financing activities. For the year ended December 31, 2004, the Company used \$33,000 in financing activities related to the pay down of a note payable.

For the year ended December 31, 2003, cash used in financing activities was \$5.5 million, all of which was used in the continuing operations. The Company decreased its borrowings under its bank line of credit by \$5.4 million, and had no outstanding bank debt at December 31, 2003.

For the year ended December 31, 2002, the Company generated \$4.0 million net cash through financing activities; \$1.4 million was provided by continuing operations and \$2.6 million was provided by discontinued operations. The Company received \$1.3 million from its escrow agent in January 2002 from a fixed-price rights offering which was completed on December 21, 2001 and received \$263,000 for the exercise of employee stock options. The Company increased its borrowings under its bank line of credit by \$443,000 to a total of \$5.4 million, and decreased its borrowings from ManTech International Corporation by \$350,000 to a total of \$650,000.

### Credit Facilities.

General Physics Corporation is a wholly owned subsidiary of GP Strategies. On March 30, 2004, the Company was added as an additional borrower under the Financing and Security Agreement between General Physics Corporation and a financial institution. Under the terms of the agreement, \$1.5 million of General Physics' available credit facility has been carved out for use by GSE. The line is collateralized by substantially all of the Company's assets and provides for borrowings up to 80% of eligible accounts receivable and 80% of eligible unbilled receivables. The interest rate on this line of credit is based upon the LIBOR Market Index Rate plus 3% (5.4% as of December 31, 2004), with interest only payments due monthly. At December 31, 2004, the Company's available borrowing base was \$1.5 million, none of which had been utilized. The credit facility expires on August 12, 2006.

Other. The following summarizes the Company's contractual cash obligations at December 31, 2004, and the effect these obligations are expected to have on its liquidity and cash flow in future periods:

Cash Obligations	Payments Due by Period				
	Total	Less than 1 year	1-3 Years	4-5 Years	After 5 Years
Long Term Debt	\$ -	\$ -	\$ -	\$ -	\$ -
Related Party Long Term Debt	\$ 9	\$ 9	\$ -	\$ -	\$ -
Purchase Commitments	\$ 3,955	\$ 3,684	\$ 271	\$ -	\$ -
Net future minimum lease payments	\$ 4,958	\$ 1,559	\$ 3,399	\$ -	\$ -
Contractual Cash	\$ 8,922	\$ 5,252	\$ 3,670	\$ -	\$ -

In conjunction with the move of its Process Automation business to its Columbia, Maryland facility in May 2003, the Company subleased most of its vacated facility in Baltimore, Maryland to AlphaPharma USPD Inc. for a five-year period, although AlphaPharma could terminate the lease at the end of the second year provided a six-month notice was given. In October, 2004, AlphaPharma notified the Company that they will terminate the sublease on April 30, 2005. The Company's broker is actively seeking another subtenant, and management believes that a subtenant will be found prior to the end of the sublease. However, if a subtenant is not found or the terms of a new subtenant lease arrangement are not consistent with those of the AlphaPharma lease, the Company may be required to record an additional charge related to the lease for the vacated facility. The Company's lease, which expires July, 2008, requires annual rent of approximately \$550,000. The Company currently has a loss accrual of \$158,000.

In conjunction with the sale of the Process business to Novatech LLC in September, 2003, the Company entered into a sublease agreement with

Novatech to sublease a portion of the Columbia, Maryland facility for a one-year period. The lease is currently on a month to month basis.

As of December 31, 2003, the Company was contingently liable for one letter of credit totaling \$29,000. The letter of credit represents a payment bond on a contract and has been cash collateralized. In addition, the Company was contingently liable at December 31, 2004 for approximately \$36,000 under a performance bond on one contract which was secured by a bank guarantee of the Company's foreign subsidiary.

#### **Foreign Exchange.**

A portion of the Company's international sales revenue has been and may be received in a currency other than the currency in which the expenses relating to such revenue are paid. When necessary, the Company enters into forward exchange contracts, options and swap agreements as hedges against certain foreign currency commitments to hedge its foreign currency risk.

#### **Off-balance Sheet Obligations.**

The Company has no off-balance sheet obligations as of December 31, 2004.

#### **New Accounting Standards.**

In December 2004, the FASB issued SFAS No. 123 - Revised (SFAS No. 123R), "Share-Based Payment", which revises SFAS No. 123, "Accounting for Stock-Based Compensation", and supercedes APB No. 25, "Accounting for Stock Issued to Employees." Currently, the Company does not record compensation expense for certain stock-based compensation. Under SFAS No. 123R, the Company will measure the cost of employee services received in exchange for stock, based on the grant-date fair value (with limited exceptions) of the stock award. Such cost will be recognized over the period during which the employee is required to provide service in exchange for the stock award (usually the vesting period). The fair value of the stock award will be estimated using an option-pricing model, with excess tax benefits, as defined in SFAS No. 123R, being recognized as an addition to paid in capital. SFAS No. 123R is effective as of July 1, 2005. The Company is currently in the process of evaluating the impact of SFAS No. 123R on our financial statements.

#### **Other Matters.**

To date, management believes inflation has not had a material impact on the Company's operations.

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

The Company's market risk is principally confined to changes in foreign currency exchange rates. During the year ended December 31, 2004, 3% and 13% of the Company's revenue was from contracts which permitted payments in a currency other than U.S. Dollars, principally Swedish Krona and Japanese Yen, respectively. For the year ended December 31, 2003, 4% and 11% of the Company's revenue was denominated in Swedish Krona and Japanese Yen, respectively. For the year ended December 31, 2002, 5% of the Company's revenue was in Swedish Krona, 3% was in Japanese Yen. In addition, during the years ended December 31, 2004, 2003 and 2002, 16%, 13% and 9%, respectively, of the Company's expenses were incurred in Swedish Krona. The Company's exposure to foreign exchange rate fluctuations arises in part from inter-company accounts in which costs incurred in one entity are charged to other entities in different foreign jurisdictions. The Company is also exposed to foreign exchange rate fluctuations as the financial results of all foreign subsidiaries are translated into U.S. dollars in consolidation. As exchange rates vary, those results when translated may vary from expectations and adversely impact overall expected profitability.

The Company utilizes various derivative financial instruments to manage market risks associated with the fluctuations in foreign currency exchange rates. It is the Company's policy to use derivative financial instruments to protect against market risk arising in the normal course of business. The criteria the Company uses for designating an instrument as a hedge include the instrument's effectiveness in risk reduction and one-to-one matching of derivative instruments to underlying transactions. The Company monitors its foreign currency exposures to maximize the overall effectiveness of its foreign currency hedge positions. Principal currencies hedged include the Euro and the Japanese yen. The Company's objectives for holding derivatives are to minimize the risks using the most effective methods to reduce the impact of these exposures. The Company minimizes credit exposure by limiting counterparties to nationally recognized financial institutions.

At December 31, 2004, the Company had contracts for the sale of approximately \$4.6 million Japanese Yen at fixed rates. The contracts expire on various dates through May, 2007. The Company has not designated the contracts as hedges and, accordingly, has recorded the estimated fair value of the contracts of \$203,000 at December 31, 2004 as an other asset in the consolidated balance sheet and other income (expense) in the consolidated statements of operations.

The Company is also subject to market risk related to the interest rates on its existing line of credit. As of March 15, 2005, such interest rates are based on the prime rate plus 100 basis-points.

As of December 31, 2004 and throughout the full year ending December 31, 2004, the Company did not have any outstanding debt that was subject to variable interest rates.

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

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# Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders  
GSE Systems, Inc.:

We have audited the accompanying consolidated balance sheets of GSE Systems, Inc. and subsidiaries as of December 31, 2004 and 2003, and the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 2004. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of GSE Systems, Inc. and subsidiaries as of December 31, 2004 and 2003, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2004 in conformity with generally accepted U.S. accounting principles.

/s/KPMG LLP

Baltimore, Maryland  
March 15, 2005

PART I - FINANCIAL INFORMATION  
Item 1. Financial Statements

GSE SYSTEMS, INC. AND SUBSIDIARIES  
CONSOLIDATED BALANCE SHEETS

(in thousands, except share data)

	December 31,	
	2004	2003
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 868	\$ 1,388
Restricted cash	29	473
Contract receivables	8,723	9,457
Prepaid expenses and other current assets	819	1,635
Total current assets	10,439	12,953
Equipment and leasehold improvements, net	596	643
Software development costs, net	909	946
Goodwill, net	1,739	1,739
Other assets	545	255
Total assets	\$ 14,228	\$ 16,536
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	\$ 9	\$ 33
Accounts payable	2,998	2,946
Due to GP Strategies Corporation	291	100
Accrued expenses	1,608	1,418
Accrued compensation and payroll taxes	1,523	1,752
Billings in excess of revenue earned	1,079	3,927
Other current liabilities	273	240
Total current liabilities	7,781	10,416
Long-term debt	-	9
Accrued warranty reserves	483	407
Other liabilities	19	25
Total liabilities	8,283	10,857
Commitments and contingencies		
Stockholders' equity:		
Preferred stock \$.01 par value, 2,000,000 shares authorized, no shares issued and outstanding	-	-
Common stock \$.01 par value, 18,000,000 shares authorized, shares issued and outstanding 8,949,706 in 2004 and 2003	89	89
Additional paid-in capital	30,815	30,815
Accumulated deficit - at formation	(5,112)	(5,112)
Accumulated deficit - since formation	(19,044)	(19,162)

Accumulated other comprehensive loss	(803)	(951)
	-----	-----
Total stockholders' equity	5,945	5,679
	-----	-----
Total liabilities and stockholders' equity	\$ 14,228	\$ 16,536
	=====	=====

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



GSE SYSTEMS, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF OPERATIONS  
(in thousands, except per share data)

	Years ended December 31,		
	2004	2003	2002
Contract revenue	\$ 29,514	\$ 25,019	\$ 20,220
Cost of revenue	22,715	19,175	16,660
Gross profit	6,799	5,844	3,560
Operating expenses			
Selling, general and administrative	6,517	6,443	6,506
Depreciation and amortization	280	392	395
Total operating expenses	6,797	6,835	6,901
Operating income (loss)	2	(991)	(3,341)
Interest expense, net	(176)	(504)	(55)
Other income (expense), net	316	(273)	37
Income (loss) from continuing operations before income taxes	142	(1,768)	(3,359)
Provision for income taxes	60	93	891
Income (loss) from continuing operations	82	(1,861)	(4,250)
Loss from discontinued operations, net of income taxes	-	(1,409)	(1,693)
Income (loss) on sale of discontinued operations, net of income taxes	36	(262)	-
Income (loss) from discontinued operations	36	(1,671)	(1,693)
Net income (loss)	118	(3,532)	(5,943)
Preferred stock dividends and beneficial conversion premium	-	(2,140)	(234)
Net income (loss) attributed to common shareholders	\$ 118	\$ (5,672)	\$ (6,177)
Basic earnings (loss) per common share:			
Continuing operations	\$ 0.01	\$ (0.61)	\$ (0.76)
Discontinued operations	0.00	(0.26)	(0.29)
Net income (loss)	\$ 0.01	\$ (0.87)	\$ (1.05)
Diluted earnings (loss) per common share			
Continuing operations	\$ 0.01	\$ (0.61)	\$ (0.76)
Discontinued operations	0.00	(0.26)	(0.29)
Net loss	\$ 0.01	\$ (0.87)	\$ (1.05)

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

GSE SYSTEMS, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)  
(in thousands)

	Years ended December 31,		
	2004	2003	2002
Net income (loss)	\$ 118	\$ (3,532)	\$ (5,943)
Foreign currency translation adjustment	148	236	128
Comprehensive income (loss)	\$ 266	\$ (3,296)	\$ (5,815)

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

GSE SYSTEMS, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY  
(in thousands)

	Common Stock		Preferred Stock		Additional Paid-in Capital	Retained Earnings (Deficit)		Accumulated Other Comprehensive Loss	
	Shares	Amount	Shares	Amount		At Formation	Since Formation	Loss	Total
Balance, January 1, 2002	5,742	\$ 57	39	\$ -	\$ 27,535	\$(5,112)	\$ (7,313)	\$ (1,315)	\$13,852
Common stock issued for options exercised	128	2	-	-	261	-	-	-	263
Stock option compensation	-	-	-	-	45	-	-	-	45
Preferred stock dividends declared and payable	-	-	-	-	-	-	(234)	-	(234)
Foreign currency translation adjustment	-	-	-	-	-	-	-	128	128
Net loss	-	-	-	-	-	-	(5,943)	-	(5,943)
Balance, December 31, 2002	5,870	59	39	-	27,841	(5,112)	(13,490)	(1,187)	8,111
Common stock issued to GP Strategies Corporation	150	1	-	-	179	-	-	-	180
Fair value of warrants issued to non-employees	-	-	-	-	86	-	-	-	86
Preferred stock dividends declared and payable	-	-	-	-	-	-	(190)	-	(190)
Stock dividend issued due to change in preferred stock conversion price	1,037	10	-	-	1,940	-	(1,950)	-	-
Conversion of preferred stock to common stock	1,474	15	(39)	-	(14)	-	-	-	1
Conversion of subordinated debt to common stock	419	4	-	-	783	-	-	-	787
Foreign currency translation adjustment	-	-	-	-	-	-	-	236	236
Net loss	-	-	-	-	-	-	(3,532)	-	(3,532)
Balance, December 31, 2003	8,950	89	-	-	30,815	(5,112)	(19,162)	(951)	5,679
Foreign currency translation adjustment	-	-	-	-	-	-	-	148	148
Net income	-	-	-	-	-	-	118	-	118
Balance, December 31, 2004	8,950	\$ 89	-	\$ -	\$ 30,815	\$(5,112)	\$ (19,044)	\$ (803)	\$5,945

GSE SYSTEMS, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF CASH FLOWS  
(in thousands)

	Years ended December 31,		
	2004	2003	2002
Cash flows from operating activities:			
Net income (loss)	\$ 118	\$ (3,532)	\$ (5,943)
Loss from discontinued operations	-	(1,409)	(1,693)
Income (loss) on sale of discontinued operations	36	(262)	-
Income (loss) from continuing operations	82	(1,861)	(4,250)
Adjustments to reconcile income (loss) from continuing operations to net cash provided by (used in) operating activities:			
Depreciation and amortization	678	731	653
Foreign currency transaction gain	(52)	(5)	(34)
Stock option compensation	-	-	45
Deferred income taxes	(50)	-	1,600
Changes in assets and liabilities:			
Contract receivables	734	(3,010)	1,248
Prepaid expenses and other assets	547	(624)	272
Accounts payable, accrued compensation and accrued expenses	200	2,060	230
Due to GP Strategies Corporation	191	100	-
Billings in excess of revenue earned	(2,829)	3,335	(674)
Accrued warranty reserves	158	(158)	(60)
Other liabilities	(50)	(26)	(61)
Income taxes payable	34	(36)	(64)
Net cash provided by (used in) continuing operations	(357)	506	(1,095)
Net cash provided by (used in) discontinued operations	(36)	883	(110)
Net cash provided by (used in) operating activities	(393)	1,389	(1,205)
Cash flows from investing activities:			
Proceeds from sale of Process business, net of transaction costs	-	5,245	-
Net cash paid for acquisition of businesses	-	(515)	(45)
Capital expenditures	(222)	(191)	(170)

Capitalized software development costs	(361)	(542)	(768)
Releases (restrictions) of cash as collateral under letters of credit, net	473	245	(243)
Other cash used in discontinued operations, net	-	(506)	(1,997)
	-----	-----	-----
Net cash provided by (used in) investing activities	(110)	3,736	(3,223)
	-----	-----	-----
Cash flows from financing activities:			
Proceeds from issuance of common stock	-	-	1,583
Repayment on note payable to related party	-	-	(350)
(Decrease) increase in borrowings under line of credit	-	(5,431)	443
Other financing repayments	(33)	(30)	(269)
Other cash provided by discontinued operations, net	-	-	2,589
	-----	-----	-----
Net cash provided by (used in) financing activities	(33)	(5,461)	3,996
	-----	-----	-----
Effect of exchange rate changes on cash	16	107	9
	-----	-----	-----
Net decrease in cash and cash equivalents	(520)	(229)	(423)
Cash and cash equivalents at beginning of year	1,388	1,617	2,040
	-----	-----	-----
Cash and cash equivalents at end of year	\$ 868	\$ 1,388	\$ 1,617
	=====	=====	=====

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

## GSE SYSTEMS, INC. AND SUBSIDIARIES

### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS December 31, 2004, 2003, and 2002

#### 1. Business and liquidity

GSE Systems, Inc. ("GSE Systems", "GSE" or the "Company") develops and delivers business and technology solutions by applying simulation software, systems and services to the energy industry worldwide. The Company's solutions and services assist customers in improving quality, safety and throughput; reducing operating expenses; and enhancing overall productivity.

GP Strategies Corporation (GP Strategies) owned approximately 58% of the Company's outstanding common stock at December 31, 2003 and 2004.

The Company's operations are subject to certain risks and uncertainties including, among others, rapid technological changes, success of the Company's product development, marketing and distribution strategies, the need to manage growth, the need to retain key personnel and protect intellectual property, and the availability of additional financing on terms acceptable to the Company.

In September 2003, the Company completed the sale of substantially all of the assets of GSE Process Solutions, Inc. (Process) to Novatech, LLC (Novatech) pursuant to an Asset Purchase Agreement, effective as of September 25, 2003, by and between the Company, Process, and Novatech. The Company received \$5.5 million in cash, subject to certain adjustments. The operating results of the Company's Process business have been classified as discontinued operations in the Consolidated Statements of Operations for all periods presented.

#### 2. Summary of significant accounting policies

##### Principles of consolidation

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

##### Accounting estimates

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

##### Revenue recognition

The majority of the Company's revenue is derived through the sale of uniquely designed systems containing hardware, software and other materials under fixed-price contracts. In accordance with Statement of Position 81-1 Accounting for Performance of Construction-Type and Certain Production-Type Contracts, the revenue under these fixed-price contracts is accounted for on the percentage-of-completion method. This methodology recognizes income as work progresses on the contract and is based on an estimate of the income earned to date, less income recognized in earlier periods. The Company bases its estimate of the degree of completion of the contract by reviewing the relationship of costs incurred to date to the expected total costs that will be incurred on the project. Estimated contract earnings are reviewed and revised periodically as the work progresses, and the cumulative effect of any change in estimate is recognized in the period in which the change is identified. Estimated losses are charged against earnings in the period such losses are identified.

As the Company recognizes revenue under the percentage-of-completion method, it provides an accrual for estimated future warranty costs based on historical and projected claims experience. The Company's long-term contracts generally provide for a one-year warranty on parts, labor and any bug fixes as it relates to software embedded in the systems.

The Company's system design contracts do not provide for "post customer support service" (PCS) in terms of software upgrades, software enhancements or telephone support. In order to obtain PCS, the customers must purchase a separate contract. Such PCS arrangements are generally for a one-year period renewable annually and include customer support, unspecified software upgrades, and maintenance releases. The Company recognizes revenue from these contracts ratably over the life of the agreements in accordance with Statement of Position 97-2 Software Revenue Recognition.

Revenue from the sale of software licenses which do not require significant modifications or customization for the Company's modeling tools are recognized when the license agreement is signed, the license fee is fixed and determinable, delivery has occurred, and collection is considered probable.

Revenues from certain consulting or training contracts are recognized on a time-and-material basis. For time-and-material type contracts, revenue is recognized based on hours incurred at a contracted labor rate plus expenses.

#### Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and highly liquid investments with maturities of three months or less at the date of purchase.

#### Equipment and leasehold improvements, net

Equipment is recorded at cost and depreciated using the straight-line method with estimated useful lives ranging from three to ten years. Leasehold improvements are amortized over the life of the lease or the estimated useful life, whichever is shorter, using the straight-line method. Upon sale or retirement, the cost and related amortization are eliminated from the respective accounts and any resulting gain or loss is included in operations. Maintenance and repairs are charged to expense as incurred.

#### Software development costs

Certain computer software development costs are capitalized in the accompanying consolidated balance sheets. Capitalization of computer software development costs begins upon the establishment of technological feasibility. Capitalization ceases and amortization of capitalized costs begins when the software product is commercially available for general release to customers. Amortization of capitalized computer software development costs is included in cost of revenue and is provided using the straight-line method over the remaining estimated economic life of the product, not to exceed five years.

#### Development expenditures

Development expenditures incurred to meet customer specifications under contracts are charged to contract costs. Company sponsored development expenditures are charged to operations as incurred and are included in selling, general and administrative expenses. The amounts incurred for Company sponsored development activities relating to the development of new products and services or the improvement of existing products and services, were approximately \$552,000, \$856,000, and \$763,000, for the years ended December 31, 2004, 2003 and 2002, respectively.

#### Asset impairment

The Company periodically evaluates the recoverability of its long-lived assets by comparing the carrying value of the asset to management's best estimate of the expected future cash flows to be generated by the asset, undiscounted and without interest costs. Impairments are recognized in operating results to the extent that the carrying value exceeds fair value. No impairment losses were recognized in 2004, 2003 or 2002.

#### Goodwill

Goodwill and intangible assets with indefinite useful lives are not amortized, but instead tested for impairment at least annually. On December 31, 2002, 2003 and 2004, the Company completed its analysis of goodwill and determined no impairment charge was necessary.

#### Foreign currency translation

Balance sheet accounts for foreign operations are translated at the exchange rate at the balance sheet date, and income statement accounts are translated at the average exchange rate for the period. The resulting translation adjustments are included in accumulated other comprehensive loss in stockholders' equity. Transaction gains and losses, resulting from changes in exchange rates, are included in other income (expense) in the Consolidated Statements of Operations in the period in which they occur. For the years ended December 31, 2004, 2003, and 2002, foreign currency transaction gains were approximately \$52,000, \$5,000, and \$34,000, respectively.

#### Warranties

As the Company recognizes revenue under the percentage-of-completion method, it provides an accrual for estimated future warranty costs based on historical experience and projected claims. The activity in the warranty accounts is as follows:

	(in thousands)		
	For the years ended December 31,		
	2004	2003	2002
Beginning balance	\$ 509	\$ 667	\$ 727

Current year provision	312	470	686
Current year claims	(154)	(628)	(746)
	-----	-----	-----
Ending balance	\$ 667	\$ 509	\$ 667
	=====	=====	=====

As of December 31, 2004 and 2003, \$483,000, and \$407,000, respectively, of the warranty reserve was recorded as a long-term liability with the balance recorded as a current liability.

#### Income taxes

Deferred income taxes are provided under the asset and liability method. Under this method, deferred income taxes are determined based on the differences between the financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized. Provision is made for the Company's current liability for federal, state and foreign income taxes and the change in the Company's deferred income tax assets and liabilities. No provision has been made for the undistributed earnings of the Company's foreign subsidiaries as they are considered permanently invested. Amounts of undistributed earnings are not material to the overall consolidated financial statements.

## Stock Compensation

The Company applies the intrinsic-value-based method of accounting prescribed by Accounting Principles Board (APB) Opinion No. 25, Accounting for stock issued to Employees, and related interpretations including FASB Interpretation No. 44, Accounting for Certain Transactions Involving Stock Compensation, and interpretation of APB Opinion No. 25, issued in March 2000, to account for its fixed-plan stock options. Under this method, compensation expense is recorded on the date of grant only if the current market price of the underlying stock exceeds the exercise price. SFAS No. 123, Accounting for Stock-Based Compensation, established accounting and disclosure requirements using a fair-value-based method of accounting for stock based employee compensation plans. As allowed by SFAS No. 123, the Company has elected to continue to apply the intrinsic-value-based method of accounting describe above, and has adopted only the disclosure requirements of SFAS No. 123. The following table illustrates the effect on net income if the fair-value-based method had been applied to all outstanding and unvested awards in each period.

(in thousands, except per share data)	Years ended December 31,		
	2004	2003	2002
Net income (loss) attributed to common stockholders, as reported	\$ 118	\$ (5,672)	\$ (6,177)
Add stock-based employee compensation expense included in reported net loss, net of tax	-	-	45
Deduct total stock-based employee compensation expense determined under fair-value-method for all awards, net of tax	(51)	(381)	(422)
Pro forma net loss	\$ 67	\$ (6,053)	\$ (6,554)
Net income (loss) per share, as reported:			
Basic	\$ 0.01	\$ (0.87)	\$ (1.05)
Diluted	\$ 0.01	\$ (0.87)	\$ (1.05)
Proforma net income (loss) per share:			
Basic	\$ 0.01	\$ (0.93)	\$ (1.12)
Diluted	\$ 0.01	\$ (0.93)	\$ (1.12)

The fair value of each option is estimated on the date of grant using a Black-Scholes option-pricing model. There were no options granted during 2004, 2003 or 2002.

## Earnings (loss) per share

Basic earnings per share is based on the weighted average number of outstanding common shares for the period. Diluted earnings per share adjusts the weighted average shares outstanding for the potential dilution that could occur if stock options, warrants, or convertible preferred stock were exercised or converted into common stock. The number of common shares and common share equivalents used in the determination of basic and diluted earnings (loss) per share was as follows:

(in thousands, except for share and per share amounts)	Years ended December 31,		
	2004	2003	2002
Numerator:			
Net income (loss)	\$ 118	\$ (3,532)	\$ (5,943)
Stock dividend- beneficial conversion premium	-	(1,950)	-
Preferred stock dividends		(190)	(234)
Net income (loss) attributed to common stockholders	\$ 118	\$ (5,672)	\$ (6,177)
Denominator:			
Weighted-average shares outstanding for basic earnings per share	8,949,706	6,542,000	5,863,134
Effect of dilutive securities:			
Employee stock options, warrants and options outside the plan	105,736	-	-
Adjusted weighted-average shares outstanding and assumed conversions for diluted earnings per share	9,055,442	6,542,000	5,863,134
Shares related to dilutive securities excluded because inclusion would be anti-dilutive:	1,294,826	1,903,976	3,166,456



	=====	=====	=====
Basic income (loss) per common share:			
Continuing operations	\$ 0.01	\$ (0.61)	\$ (0.76)
Discontinued operations	\$ 0.00	\$ (0.26)	(0.29)
	-----	-----	-----
Net income (loss)	\$ 0.01	\$ (0.87)	\$ (1.05)
	=====	=====	=====
Diluted income (loss) per common share:			
Continuing operations	\$ 0.01	\$ (0.61)	\$ (0.76)
Discontinued operations	\$ 0.00	(0.26)	(0.29)
	-----	-----	-----
Net income (loss)	\$ 0.01	\$ (0.87)	\$ (1.05)
	=====	=====	=====

The difference between the basic and diluted number of weighted average shares outstanding for the year ended December 31, 2004 represents dilutive stock options and warrants to purchase shares of common stock computed under the treasury stock method, using the average market price during the period. The net loss for the years ended December 31, 2003 and 2002 was decreased by preferred stock dividends and related charges of \$2,140,000, and \$234,000, respectively, in calculating the per share amounts. The preferred stock was converted into common stock on October 23, 2003. Conversion of the preferred stock was not assumed for the year ended December 31, 2002 because the impact was anti-dilutive.

#### Concentration of credit risk

The Company is subject to concentration of credit risk with respect to contract receivables. Credit risk on contract receivables is mitigated by the nature of the Company's worldwide customer base and its credit policies. The Company's customers are not concentrated in any specific geographic region, but are concentrated in the energy industry. For the years ended December 31, 2004, 2003 and 2002, one customer accounted for approximately 24%, 29%, and 23%, respectively, of the Company's revenue. At December 31, 2004, the contracts receivable balance related to this significant customer was approximately \$1.4 million, or 16% of contract receivables, of which \$646,000 was unbilled at year-end.

#### Fair values of financial instruments

The carrying amounts of current assets, current liabilities, and long-term debt reported in the Consolidated Balance Sheets approximate fair value.

#### Off balance sheet risk and foreign exchange contracts

The Company utilizes various derivative financial instruments to manage market risks associated with the fluctuations in foreign currency exchange rates. It is the Company's policy to use derivative financial instruments to protect against market risk arising in the normal course of business. The criteria the Company uses for designating an instrument as a hedge include the instrument's effectiveness in risk reduction and one-to-one matching of derivative instruments to underlying transactions. The Company monitors its foreign currency exposures to maximize the overall effectiveness of its foreign currency hedge positions. Principal currencies hedged include the Euro and the Japanese yen. The Company's objectives for holding derivatives are to minimize the risks using the most effective methods to reduce the impact of these exposures. The Company minimizes credit exposure by limiting counterparties to nationally recognized financial institutions.

All derivatives, whether designated as hedging relationships or not, are required to be recorded on the balance sheet at fair value. If the derivative is designated as a fair value hedge, the changes in the fair value of the derivative and of the hedged item attributable to the hedged risk are recognized in earnings. If the derivative is designated as a cash flow hedge, the change in the fair value of the derivative and of the hedged item are recognized as an element of other comprehensive income.

At December 31, 2004, the Company had contracts for the sale of approximately \$4.6 million Japanese Yen at fixed rates. The contracts expire on various dates through May, 2007. The Company has not designated the contracts as hedges and, accordingly, has recorded the estimated fair value of the contracts of \$203,000 at December 31, 2004 as an other asset in the consolidated balance sheet and other income (expense) in the consolidated statement of operations.

#### Reclassifications

Certain reclassifications have been made to prior year amounts to conform with the current year presentation.

#### New Accounting Standards

In December 2004, the FASB issued SFAS No. 123 - Revised (SFAS No. 123R), "Share-Based Payment", which revises SFAS No. 123, "Accounting for Stock-Based Compensation", and supercedes APB No. 25, "Accounting for Stock Issued to Employees." Currently, the Company does not record compensation expense for certain stock-based compensation. Under SFAS No. 123R, the Company will measure the

cost of employee services received in exchange for stock, based on the grant-date fair value (with limited exceptions) of the stock award. Such cost will be recognized over the period during which the employee is required to provide service in exchange for the stock award (usually the vesting period). The fair value of the stock award will be estimated using an option-pricing model, with excess tax benefits, as defined in SFAS No. 123R, being recognized as an addition to paid in capital. SFAS No. 123R is effective as of July 1, 2005. The Company is currently in the process of evaluating the impact of SFAS No. 123R on our financial statements.

### 3. Discontinued Operations

In September 2003, the Company completed the sale of substantially all of the assets of GSE Process Solutions, Inc. (Process) to Novatech, LLC (Novatech) pursuant to an Asset Purchase Agreement, effective as of September 25, 2003, by and between the Company, Process and Novatech. The Company received \$5.5 million in cash, subject to certain adjustments. The Company recognized a loss on this transaction of \$262,000. In conjunction with the transaction, Novatech purchased certain assets with a book value of \$11.7 million and assumed certain operating liabilities totaling approximately \$6.8 million. The Company incurred approximately \$865,000 of closing costs associated with the transaction. Results of operations have been restated to classify the net earnings, assets and liabilities of the Process business as discontinued operations.

The contract revenue and income (loss) for the discontinued Process business was:

(in thousands)	Years ended December 31,		
	2004	2003	2002
Contract revenue	\$ -	\$ 13,693	\$ 22,896
Income (loss) from discontinued operations	36	(1,671)	(1,693)

Income (loss) from discontinued operations includes losses in 2003 and 2002 of \$115,000, and \$2.8 million, respectively, from the write down of the Company's investment in Avantium International BV. The \$36,000 of income in 2004 relates to the favorable resolution of certain contingencies which the Company had provided for at the date of sale net of income taxes.

### 4. Contract receivables

Contract receivables represent balances due from a broad base of both domestic and international customers. All contract receivables are considered to be collectible within twelve months. Recoverable costs and accrued profit not billed represent costs incurred and associated profit accrued on contracts that will become billable upon future milestones or completion of contracts. The components of contract receivables are as follows:

(in thousands)	December 31,	
	2004	2003
Billed receivables	\$ 4,491	\$ 5,069
Recoverable costs and accrued profit not billed	4,256	4,395
Allowance for doubtful accounts	(24)	(7)
Total contract receivables	\$ 8,723	\$ 9,457

### 5. Prepaid expenses and other current assets

Prepaid expenses and other current assets consist of the following:

(in thousands)	December 31,	
	2004	2003
Prepaid expenses	\$ 610	\$ 1,485
Employee advances	17	16
Other current assets	192	134
Total	\$ 819	\$ 1,635

### 6. Equipment and leasehold improvements

Equipment and leasehold improvements consist of the following:

(in thousands)	December 31,
----------------	--------------

	2004	2003
Computer equipment	\$ 3,095	\$ 2,772
Leasehold improvements	703	692
Furniture and fixtures	942	1,158
	4,740	4,622
Accumulated depreciation and amortization	(4,144)	(3,979)
	\$ 596	\$ 643

Depreciation and amortization expense was approximately \$280,000, \$392,000, and \$395,000 for the years ended December 31, 2004, 2003, and 2002, respectively.

#### 7. Software development costs

Software development costs, net, consist of the following:

(in thousands)	December 31,	
	2004	2003
Capitalized software development costs	\$1,568	\$1,207
Accumulated amortization	(659)	(261)
	\$909	\$946

Software development costs capitalized were approximately \$361,000, \$542,000, and \$555,000 for the years ended December 31, 2004, 2003 and 2002, respectively. Amortization of software development costs capitalized was approximately \$398,000, \$339,000, and \$256,000, for the years ended December 31, 2004, 2003 and 2002, respectively, and were included in cost of revenue.

#### 8. Long-term Debt

The Company's long-term debt consists of an unsecured promissory note to a former employee with a remaining balance of \$9,000 at December 31, 2004 which is due March 31, 2005.

#### Line of Credit

General Physics Corporation is a wholly owned subsidiary of GP Strategies. On March 30, 2004, the Company was added as an additional borrower under the Financing and Security Agreement between General Physics Corporation and a financial institution. Under the terms of the agreement, \$1.5 million of General Physics' available credit facility has been carved out for use by GSE. The line is collateralized by substantially all of the Company's assets and provides for borrowings up to 80% of eligible accounts receivable and 80% of eligible unbilled receivables. The interest rate on this line of credit is based upon the LIBOR Market Index Rate plus 3% (5.4% as of December 31, 2004), with interest only payments due monthly. At December 31, 2004, the Company's available borrowing base was \$1.5 million, none of which had been utilized. The credit facility expires on August 12, 2006.

The credit facility requires the Company to comply with certain financial ratios. At December 31, 2004, the Company was in compliance with its financial ratio covenants.

In March, 2003, GP Strategies extended their \$1.8 million limited guarantee of the Company's previous bank facility. In consideration for the extension of the guarantee, the Company issued 150,000 shares of its common stock to GP Strategies. The number of shares was calculated based upon a 10% fee divided by the closing price of GSE's common stock on March 21, 2003. The Company recorded the value of \$180,000 as deferred financing cost with a corresponding credit to common stock and additional paid-in capital. The deferred costs were amortized over the one-year life of the guarantee through March 2004.

#### Notes Payable to Related Parties

On June 25, 2001, the Company issued an unsecured promissory note to ManTech for \$1.0 million at an interest rate of prime plus one percent. The Company used the loan proceeds for working capital purposes. The note was subordinated to the Company's credit facility. During 2002, the Company repaid ManTech \$350,000, plus \$247,000 of interest. In 2003, the Company paid \$35,000 of interest.

On October 23, 2003, ManTech sold this subordinated note to GP Strategies Corporation. The terms of the subordinated note were amended to allow the conversion of the subordinated debt to GSE common stock at a rate of \$1.5526 which was below the market rate (\$1.88) on the date the amendment was adopted. Accordingly, the Company recognized additional interest expense of \$137,000 reflecting the beneficial

conversion premium. GP Strategies elected to convert the note on October 23, 2003 and received 418,653 shares of GSE common stock.

## 9. Income taxes

The consolidated income (loss) before income taxes, by domestic and foreign sources, is as follows:

(in thousands)	Years ended December 31,		
	2004	2003	2002
Domestic	\$ 42	\$ (3,609)	\$ (3,866)
Foreign	166	196	(688)
Total	\$ 208	\$ (3,413)	\$ (4,554)

The provision for income taxes is as follows:

(in thousands)	Years ended December 31,		
	2004	2003	2002
Current:			
Federal	\$ 1	\$ -	\$ (112)
State	18	53	(57)
Foreign	121	66	(42)
Subtotal	140	119	(211)
Deferred:			
Federal and state	-	-	1,694
Foreign	(50)	-	(94)
Subtotal	(50)	-	1,600
Total	\$ 90	\$ 119	\$ 1,389

The allocation of the provision for income taxes to continuing and discontinued operations is as follows:

Continuing operations	\$ 60	\$ 93	\$ 891
Discontinued operations	30	26	498
	\$ 90	\$ 119	\$ 1,389

The provision for income taxes varies from the amount of income tax determined by applying the applicable U.S. statutory rate to pre-tax income (loss) as a result of the following:

	Effective tax rate percentage (%)		
	Years ended December 31,		
	2004	2003	2002
Statutory U.S. tax rate	34.0 %	(34.0)%	(34.0)%
State income tax, net of federal tax benefit	5.7	1.0	(2.0)
Effect of foreign operations	(6.0)	(0.1)	0.9
Change in valuation allowance	1.0	36.1	61.8
Other, principally permanent differences	8.6	0.5	3.8
Effective tax rate	43.3 %	3.5 %	30.5 %

Deferred income taxes arise from temporary differences between the tax bases of assets and liabilities and their reported amounts in the financial statements. A summary of the tax effect of the significant components of the deferred income tax assets (liabilities) is as follows:

(in thousands)	December 31,		
	2004	2003	2002
Net operating loss carryforwards	\$ 6,246	\$ 6,133	\$ 6,246

Investments	1,658	1,570	1,512
Foreign tax credits	378	378	379
Accrued expenses	260	288	243
Expenses not currently deductible for tax purposes	285	268	878
Alternative minimum tax credit carryforwards	162	162	162
Property and equipment	(29)	34	(90)
Software development costs	(322)	(347)	(1,615)
Other	145	95	60
	-----	-----	-----
Subtotal	8,783	8,581	7,775
Valuation allowance	(8,733)	(8,581)	(7,775)
	-----	-----	-----
Total	\$ 50	\$ -	\$ -
	=====	=====	=====

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities and projected future income in making this assessment. Other than the net deferred tax assets that are related to the Company's Swedish subsidiary, management could not substantiate recovery of the net deferred tax assets with currently available objective evidence. Accordingly, the Company has established an \$8,733,000 valuation allowance for the deferred tax assets that are not related to the Swedish subsidiary. The valuation allowance will be reduced if the Company's U.S. operations are able to realize taxable income in the future. The valuation allowance for deferred tax assets increased by \$152,000 in 2004, by \$806,000 in 2003, and by \$2,845,000 in 2002.

At December 31, 2004, the Company had available \$16,119,000 and \$1,049,000 of domestic and foreign net operating loss carryforwards, respectively, which expire between 2012 and 2024. The amount of loss carryforward which can be used by the Company may be limited to approximately \$500,000 annually.

#### 10. Capital stock

The Company's Board of Directors has authorized 20,000,000 total shares of capital stock, of which 18,000,000 are designated as common stock and 2,000,000 are designated as preferred stock. The Board of Directors has the authority to establish one or more classes of preferred stock and to determine, within any class of preferred stock, the preferences, rights and other terms of such class.

In June 2003, the Company received a \$6.6 million order from the Mexican utility Commission Federal de Electricidad (CFE) for a major simulator upgrade to the Laguna Verde nuclear plant near Vera Cruz, Mexico. The contract required that the Company issue an advance payment bond (\$1.8 million) and a performance bond (\$1.3 million) to CFE. On July 9, 2003, the Company entered into a Collateral Agreement with ManTech in which ManTech agreed to issue two letters of credit on the Company's behalf to a Mexican surety company as collateral for the bonds. One letter of credit will be outstanding for at least 30 months or until the advance payment bond is released, whichever is later, and the other letter of credit will be outstanding for at least 42 months or until the performance bond is released, whichever is later. As consideration of ManTech's issuance of the letters of credit, the Company issued 100,000 warrants at an exercise price of \$1.33 per share, the closing price on July 8, 2003 and will pay ManTech a fee equal to 7% per annum on the total amount of the then-existing value of the letters of credit, payable on a quarterly basis. The Company is amortizing the estimated fair value of these warrants (\$86,000) over the lives of the related letters of credit as additional contract costs.

On October 23, 2003 ManTech converted its preferred stock to 2,511,915 shares of GSE common stock. See the discussion of this transaction in Note 11, Series A Convertible Preferred Stock.

On October 23, 2003 GP Strategies purchased a \$650,000 unsecured subordinated promissory note from ManTech. The terms of the subordinated note were amended by the Company to allow the conversion of the subordinated debt to GSE common stock at a rate of \$1.5526. GP Strategies elected to convert the note on October 23, 2003 and received 418,653 shares of GSE common stock.

As of December 31, 2004, the Company has reserved 1,866,776 shares of common stock for issuance upon exercise of stock options and warrants.

#### 11. Series A Convertible Preferred Stock

On December 5, 2001, ManTech elected to convert \$3.9 million of subordinated debt into Series A convertible preferred stock at a conversion rate of \$100 per share. The Company determined that the conversion of this debt into preferred stock did not constitute a beneficial conversion. The Series A convertible preferred stock had no voting rights and bore dividends at the rate of 6% per annum payable quarterly. At the date of the conversion, the Company's credit facility restricted the Company from paying any dividends on the preferred stock. At December 31, 2004, the Company had accrued dividends payable to ManTech of \$366,000. The unpaid dividends accrue interest at 6% per annum. At December 31, 2004 the Company had an accrual for interest payable of \$38,000.

ManTech, at its discretion, had the right to convert each share of Series A convertible preferred stock into GSE common stock at a purchase price of \$2.645 per share at any time after a one-year holding period from the date of issuance. On September 29, 2003 the Company amended the Preferred Stock issuance agreement to revise the conversion rate to \$1.5526 per share. The change in conversion rate increased the number

of common shares available upon conversion from 1,474,480 to 2,511,915. On October 23, 2003 ManTech elected to convert all of its preferred stock to common stock in conjunction with the sale of its ownership in GSE to GP Strategies. The additional common shares that ManTech received in the conversion due to the change in conversion rate have been recorded as a beneficial conversion premium, valued at \$1,950,000 based upon the closing market price per share (\$1.88) as of October 23, 2003, and a reduction in income attributable to common stockholders.

## 12. Stock options

### Long term incentive plan

During 1995, the Company established the 1995 Long-Term Incentive Stock Option Plan (the "Plan"), which includes all officers, key employees and non-employee members of the Company's Board of Directors. All options to purchase shares of the Company's common stock under the Plan expire seven years from the date of grant and generally become exercisable in three installments with 40% vesting on the first anniversary of the grant date and 30% vesting on each of the second and third anniversaries of the grant date, subject to acceleration under certain circumstances. At December 31, 2004, the Company had 686,844 shares of common stock reserved for the future grants under the Plan.

Stock option and warrant activity is as follows:

	Shares	Weighted Average Exercise Price
	-----	-----
Options and warrants outstanding, as of January 1, 2002	2,306,655	\$ 3.73
Options and warrants exercised	(128,000)	(2.05)
Options and warrants canceled	(39,179)	(2.00)
Options and warrants granted	-	-
	-----	
Options and warrants outstanding, as of December 31, 2002	2,139,476	\$ 3.28
Options and warrants exercised	100,000	1.33
Options and warrants canceled	(335,500)	2.36
Options and warrants granted	-	-
	-----	
Options and warrants outstanding, as of December 31, 2003	1,903,976	\$ 3.95
Options and warrants exercised	-	-
Options and warrants canceled	(37,200)	3.79
Options and warrants granted	-	-
	-----	
Options and warrants outstanding, as of December 31, 2004	1,866,776	\$ 3.96
	=====	

The following table summarizes information relating to currently outstanding and exercisable options and warrants at December 31, 2004:

Range of Exercise Prices	Options and Warrants Outstanding			Options and Warrants Exercisable	
	Options and Warrants Outstanding	Weighted Average Remaining Contract Life in Years	Weighted Average Exercise Price	Options and Warrants Exercisable	Weighted Average Exercise Price
-----	-----	-----	-----	-----	-----
\$0.00 - \$1.48	175,000	2.5	\$ 1.19	175,000	\$ 1.19
\$1.48 - \$2.95	528,350	3.0	2.15	528,350	2.15
\$2.96 - \$4.43	789,485	1.6	3.67	789,485	3.67
\$4.44 - \$5.90	200,000	2.1	4.75	200,000	4.75
\$5.91 - \$7.38	10,000	2.3	6.38	10,000	6.38
\$7.39 - \$8.85	20,000	2.2	7.50	20,000	7.50
\$8.86 - \$11.80	17,700	2.1	11.25	17,700	11.25
\$11.81 - \$14.75	126,241	0.7	14.11	126,241	14.11
	-----			-----	
Total	1,866,776	2.1	\$ 3.96	1,866,776	\$ 3.96
	=====			=====	

## 13. Commitments and contingencies

### Leases

The Company is obligated under certain noncancelable operating leases for office facilities and equipment. Future minimum lease payments under noncancelable operating leases as of December 31, 2004 are as follows:

(in thousands)	Gross future minimum lease payments	Sublease rental income	Net future minimum lease payments
	-----	-----	-----
2005	\$ 1,706	\$ (147)	\$ 1,559
2006	1,388	-	1,388
2007	1,364	-	1,364
2008	646	-	646
Thereafter	-	-	-
	-----	-----	-----
Total	\$ 5,104	\$ (147)	\$ 4,957
	=====	=====	=====

Total rent expense under operating leases for the years ended December 31, 2004, 2003, and 2002 was approximately \$1.2 million, \$998,000, and \$999,000, respectively.

The Company has a sublease agreement with ManTech International, Inc. in which ManTech subleases 1,432 sq. feet of space in the Columbia, Maryland facility. The sublease is currently on a month to month basis. For the years ended December 31, 2004, 2003 and 2002, such sublease rentals amounted to \$41,000, \$32,000, and \$32,000 respectively

The Company has a sublease agreement with MECx in which MECx subleases 2,088 sq. feet of space in the Columbia, Maryland facility. The sublease is currently on a month to month basis.

In conjunction with the move of its Process Automation business to its Columbia, Maryland facility in May 2003, the Company subleased most of its vacated facility in Baltimore, Maryland to Alpharma USPD Inc. for a five-year period, although Alpharma could terminate the lease at the end of the second year provided a six-month notice was given. In October, 2004, Alpharma notified the Company that they will terminate the sublease on April 30, 2005. The Company's broker is actively seeking another subtenant, and management believes that a subtenant will be found prior to the end of the sublease. However, if a subtenant is not found or the terms of a new subtenant lease arrangement are not consistent with those of the Alpharma lease, the Company may be required to record an additional charge related to the lease for the vacated facility. The Company's lease, which expires July, 2008, requires annual rent of approximately \$550,000. The Company currently has a loss accrual of \$158,000.

In conjunction with the sale of the Process business to Novatech LLC in September, 2003, the Company entered into a sublease agreement with Novatech to sublease a portion of the Columbia, Maryland facility. This sublease is currently on a month to month basis.

#### Letters of credit and performance bonds

As of December 31, 2004, the Company was contingently liable for approximately \$29,000 under one letter of credit used as a payment bond on a contract, which was secured by a cash deposit classified as restricted cash in the consolidated balance sheet. In addition, the Company was contingently liable at December 31, 2004 for approximately \$36,000 under a performance bond on one contract, which was secured by a bank guarantee of the Company's foreign subsidiary.

#### Contingencies

Various actions and proceedings are presently pending to which the Company is a party. In the opinion of management, the aggregate liabilities, if any, arising from such actions are not expected to have a material adverse effect on the financial position, results of operations or cash flows of the Company.

#### 14. Other related party transactions

On December 7, 2001, the Company agreed to make certain cash and in-kind contributions to RedStorm Scientific, Inc. ("RedStorm") in exchange for a 10.2% interest in RedStorm. RedStorm is a privately held computational drug design company. Its technology (patents pending), known as Fyrestar, utilizes bio-informatics and computer-aided molecular design to create lead compounds that are developed into successful new drugs. It greatly reduces the significant cost associated with screening thousands of potential compounds common in the drug development process.

The Company paid \$50,000 to RedStorm in the fourth quarter of 2001 and made additional cash payments of \$200,000 in the year ended December 31, 2002. GSE's in-kind contribution consists of the development of a graphical user interface that will allow scientists to easily access and use the Fyrestar technology and the development of additional functionality to Fyrestar, allowing results to be graphically displayed as the calculations take place. This will allow scientists the opportunity to adjust their assumptions in real time and further improve results. GSE will receive a perpetual, worldwide, royalty-free, non-transferable exclusive license for RedStorm's software products solely in the power markets.

One of the Company's directors is also on RedStorm's Board of Directors and another director owns approximately 0.5% of RedStorm. The Company has accounted for its investment in RedStorm using the equity method of accounting based on management's conclusion that the

Company has significant influence with respect to the operations of RedStorm. During the year ended December 2002, the Company recorded a loss \$59,000 on this investment. In 2003, the Company wrote-off the remaining balance of its investment,\$279,000 as the decline in fair value was deemed to be other than temporary.

In October 2002, the Company purchased a Chinese subsidiary of ManTech. See the discussion of this transaction in Note 16, Acquisitions.

In December 2003, GSE's Board of Directors elected John Moran, a GP Strategies executive with experience in the power industry and simulation technology, as Chief Executive Officer. Mr. Moran continued as a GP Strategies employee, however, Mr. Moran devoted 100% of his time to the performance of his duties as CEO of GSE. In 2003, GSE was charged \$35,000 by GP Strategies for his compensation and benefits; in 2004 GSE was charged \$289,000 by GP Strategies for Mr. Moran's compensation and benefits. On December 16, 2004, Mr. Moran became an employee of GSE.

On January 1, 2004, the Company entered into a Management Services Agreement with GP Strategies Corporation in which GP Strategies agreed to provide corporate support services to GSE, including accounting, finance, human resources, legal, network support and tax. In addition, GSE uses General Physics' financial system. (General Physics is a subsidiary of GP Strategies.) In 2004, GSE was charged \$685,000 for GP Strategies' services. The agreement has been extended through December 31, 2005 without an increase in the fee. The agreement can be renewed for successive one-year terms.

In December 2003, GSE agreed to pay to General Physics, a fully-owned subsidiary of GP Strategies, approximately \$35,000 for services performed by General Physics personnel in the fourth quarter 2003 for the implementation of the Management Services Agreement. In addition, GSE was charged \$30,000 by General Physics for coverage under General Physics' directors and officers liability and umbrella insurance for November and December 2003.

#### 15. Employee benefits

The Company has a qualified defined contribution plan that covers substantially all U.S. employees under Section 401(k) of the Internal Revenue Code. Under this plan, the Company's stipulated basic contribution matches a portion of the participants' contributions based upon a defined schedule. Contributions are invested by an independent investment company in one or more of several investment alternatives. The choice of investment alternatives is at the election of each participating employee. The Company's contributions to the plan were approximately \$110,000, \$239,000, and \$215,000, for the years ended December 31, 2004, 2003, and 2002, respectively. The reduction in the Company's contributions in 2004 reflects the sale of the Company's Process Automation business in September, 2003.

#### 16. Acquisitions

In October 2002, the Company completed an acquisition which was accounted for using the purchase method. The Company purchased the stock of ManTech Automation Systems (Beijing) Company Ltd, from ManTech International Corp. The Chinese company, which has seven employees, was renamed GSE Systems Engineering (Beijing) Company Ltd. The purchase price was \$45,000 and was allocated 100% to certain current assets and property and equipment.

#### 17. Segment information

With the sale of the Company's Process business, the Company has only one reportable segment. The Company has a wide range of knowledge of simulation systems and the processes those systems are intended to control and model. The Company's knowledge is concentrated heavily in the power generation industry. The Company is primarily engaged in simulation for the power generation industry and simulation for the process industries, with the vast majority of customers being in the nuclear power industry. Contracts typically range from 18 months to three years. The Power business is comprised of three divisions: Power Simulation, Process Simulation, and US Government& Military Simulation.

For the years ended December 31, 2004, 2003, and 2002, one customer (Battelle's Pacific Northwest National Laboratory) accounted for approximately 24%, 29%, and 23%, respectively, of the Company's consolidated revenue. The Pacific Northwest National Laboratory is the purchasing agent for the Department of Energy and the projects the Company performs in Eastern and Central Europe.

For the years ended December 31, 2004, 2003, and 2002, 85%, 89%, and 86% of the Company's consolidated revenue was from customers in the nuclear power industry, respectively. The Company designs, develops and delivers business and technology solutions to the energy industry worldwide. Approximately 65%, 70%, and 56% of the Company's 2004, 2003 and 2002 revenue, respectively, was derived from international sales of its products and services. Revenue, operating income (loss) and identifiable assets for the Company's United States, European, and Asian operations as of and for the years ended December 31, 2004, 2003, and 2002 are as follows:

(in thousands)	Year Ended December 31, 2004				
	United States	Europe	Asia	Eliminations	Consolidated
Contract revenue	\$ 24,774	\$ 4,724	\$ 16	\$ -	\$ 29,514
Transfers between geographic locations	132	10	70	(212)	-



Total contract revenue	\$ 24,906	\$ 4,734	\$ 86	\$ (212)	\$ 29,514
Operating income (loss)	\$ 89	\$ (7)	\$ (80)	\$ -	\$ 2
Identifiable assets, at December 31	\$38,711	\$3,618	\$33	\$ (28,134)	\$ 14,228

(in thousands)

Year Ended December 31, 2003

	United States	Europe	Asia	Eliminations	Consolidated
Contract revenue	\$ 21,214	\$ 3,661	\$ 144	\$ -	\$ 25,019
Transfers between geographic locations	162	-	-	(162)	-
Total contract revenue	\$ 21,376	\$ 3,661	\$ 144	\$ (162)	\$ 25,019
Operating income (loss)	\$ (1,313)	\$ 346	\$ (24)	\$ -	\$ (991)
Identifiable assets, at December 31	\$ 41,423	\$ 2,651	\$ 40	\$ (27,578)	\$ 16,536

(in thousands)

Year Ended December 31, 2002

	United States	Europe	Asia	Eliminations	Consolidated
Contract revenue	\$ 18,600	\$ 1,575	\$ 45	\$ -	\$ 20,220
Transfers between geographic locations	92	-	-	(92)	-
Total contract revenue	\$ 18,692	\$ 1,575	\$ 45	\$ (92)	\$ 20,220
Operating income (loss)	\$ (2,607)	\$ (716)	\$ (18)	\$ -	\$ (3,341)
Identifiable assets, at December 31	\$ 36,000	\$ 1,363	\$ 52	\$ (8,521)	\$ 28,894

## 18. Supplemental disclosure of cash flow information

(in thousands)	Years ended December 31,		
	2004	2003	2002
Issuance of options/warrants to non-employees (see Note 10)	\$ -	\$ 86	\$ -
Conversion of related party note payable to common stock	\$ -	\$ 787	\$ -
Conversion of preferred stock to common stock	\$ -	\$ 3,900	\$ -
Cash paid:			
Interest	\$ 96	\$ 668	\$ 485
Income taxes	\$ 94	\$ 138	\$ 385

## 19. Quarterly financial data (unaudited)

The Company's quarterly financial information has not been audited but, in management's opinion, includes all adjustments necessary for a fair presentation.

### Note 19 Quarterly Financial Data (Unaudited)

(in thousands, except per share data)	Year ended December 31, 2004 Quarterly Data			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Contract revenue	\$ 7,561	\$ 7,597	\$ 7,340	\$ 7,016
Operating income (loss)	224	333	(255)	(300)
Income (loss) from continuing operations	64	276	(197)	(61)
Income from discontinued operations	-	-	60	(24)
Net income (loss)	\$ 64	\$ 276	\$ (137)	\$ (85)
Basic earnings (loss) per common share:				
Continuing operations	\$ 0.01	\$ 0.03	\$ (0.02)	\$ (0.01)
Discontinued operations	-	-	-	-
Net income (loss)	\$ 0.01	\$ 0.03	\$ (0.02)	\$ (0.01)
Diluted earnings (loss) per common share:				
Continuing operations	\$ 0.01	\$ 0.03	\$ (0.02)	\$ (0.01)
Discontinued operations	-	-	-	-
Net income (loss)	\$ 0.01	\$ 0.03	\$ (0.02)	\$ (0.01)
(in thousands, except per share data)	Year ended December 31, 2003 Quarterly Data			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Contract revenue	\$ 4,975	\$ 5,545	\$ 6,139	\$ 8,360
Operating loss	(157)	(400)	(197)	(237)
Loss from continuing operations	(250)	(482)	(313)	(816)
Loss from discontinued operations	(268)	(650)	(383)	(370)
Net loss	\$ (518)	\$ (1,132)	\$ (696)	\$ (1,186)
Basic loss per common share:				
Continuing operations	\$ (0.03)	\$ (0.11)	\$ (0.06)	\$ (0.34)
Discontinued operations	(0.07)	(0.09)	\$ (0.07)	(0.04)
Net loss	\$ (0.10)	\$ (0.20)	\$ (0.13)	\$ (0.38)
Diluted loss per common share:				
Continuing operations	\$ (0.03)	\$ (0.11)	\$ (0.06)	\$ (0.34)
Discontinued operations	(0.07)	(0.09)	(0.07)	(0.04)

Net loss

-----	-----	-----	-----
\$ (0.10)	\$ (0.20)	\$ (0.13)	\$ (0.38)
=====	=====	=====	=====

**GSE SYSTEMS, INC.**  
**FORM 10-K**  
**For the Year Ended December 31, 2004**

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

None.

**ITEM 9A. CONTROLS AND PROCEDURES.**

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed by it in its reports filed or submitted pursuant to the Securities Exchange Act of 1934, as amended (Exchange Act), is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and that information required to be disclosed by the Company in its Exchange Act reports is accumulated and communicated to management, including the Company's Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

Under the supervision and the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, the Company carried out an evaluation of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to Exchange Act Rule 13a-15(e) as of December 31, 2004. Based upon that evaluation the Company identified a material weakness with respect to the identification and accounting for derivative transactions in accordance with the requirements of SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities". (A material weakness is a significant deficiency, or combination of significant deficiencies, that result in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected.)

Based upon the Company's evaluation and the material weakness described above, the Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were not effective as of that date.

Subsequent to the review, the Company is revising its controls around derivative transactions to ensure that these transactions will be captured and accounted for in a timely manner.

There have been no other significant changes in internal controls, or in factors that could significantly affect internal controls, subsequent to the date of the Chief Operating Officer and Chief Financial Officer complete their evaluation.

**Limitation of Effectiveness of Controls**

It should be noted that any system of controls, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the system will be met. The design of any control system is based, in part, upon the benefits of the control system relative to its costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of control. In addition, over time controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. In addition, the design of any control system is based in part upon certain assumptions about the likelihood of future events. Because of inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected. The Company's controls and procedures are designed to provide a reasonable level of assurance of achieving their objectives.

**ITEM 9B. OTHER INFORMATION**

None.

### **PART III**

The information required in response to Items 10, 11, 12 13, and 14 is hereby incorporated by reference to the information under the captions "Election of Directors", "Principal Executive Officers of the Company Who Are Not Also Directors", "Executive Compensation", "Voting Securities and Principal Stockholders", "Security Ownership of Management", "Certain Related Transactions" and "Principal Accountant Fees and Services" in the Proxy Statement for the Company's 2005 Annual Meeting of Shareholders.

## PART IV

### ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

#### (a) (1) List of Financial Statements

The following financial statements are included in Item 8:

#### **GSE Systems, Inc. and Subsidiaries**

Report of Independent Registered Public Accounting Firm Consolidated Balance Sheets as of December 31, 2004 and 2003 Consolidated Statements of Operations for the years ended December 31, 2004, 2003, and 2002 Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2004, 2003, and 2002 Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2004, 2003, and 2002 Consolidated Statements of Cash Flows for the years ended December 31, 2004, 2003, and 2002  
Notes to Consolidated Financial Statements

#### (a) (2) List of Schedules

All other schedules to the consolidated financial statements are omitted as the required information is either inapplicable or presented in the consolidated financial statements or related notes.

#### (a) (3) List of Exhibits

The Exhibits which are filed with this report or which are incorporated by reference are set forth in the Exhibit Index hereto.

## 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.

### GSE Systems, Inc.

By: / S / JOHN MORAN  
-----  
John Moran  
Chief Executive Officer

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

Date: March 17, 2005 / S / JOHN MORAN  
-----  
John Moran, Chief Executive Officer  
(Principal Executive Officer)

Date: March 17, 2005 / S / JEFFERY G. HOUGH  
-----  
Jeffery G. Hough, Senior Vice President  
and Chief Financial Officer  
(Principal Financial and Accounting  
Officer)

Date: March 17, 2005  
(Jerome I. Feldman, Chairman of the Board) By: / S / JEFFERY G. HOUGH  
-----  
(Dr. Sheldon L. Glashow, Director ) Jeffery G. Hough  
(Scott N. Greenberg, Director ) Attorney-in-Fact  
(Dr. Roger Hagenruber, Director )  
(Chin-our Jerry Jen, Director )  
(Andrea Kantor, Director )  
(Joseph W. Lewis, Director )  
(George J. Pedersen, Director )  
(Douglas Sharp, Director )

A Power of Attorney, dated January 5, 2005, authorizing Jeffery G. Hough to sign this Annual Report on Form 10-K for the fiscal year ended December 31, 2004 on behalf of certain of the directors of the Registrant is filed as Exhibit 24 to this Annual Report.

Exhibit	Description of Exhibit
3.	Articles of Incorporation and Bylaws
a.	Third Amended and Restated Certificate of Incorporation of the Company. Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on October 24, 2001 and incorporated herein by reference.
b.	Form of Amended and Restated Bylaws of the Company. Previously filed in connection with Amendment No. 1 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on June 14, 1995 and incorporated herein by reference.
4.	Instruments Defining Rights of Security Holders, including Indenture.
a.	Specimen Common Stock Certificate of the Company. Previously filed in connection with Amendment No. 3 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on July 24, 1995 and incorporated herein by reference.
10.	Material Contracts
a.	Agreement among ManTech International Corporation, National Patent Development Corporation, GPS Technologies, Inc., General Physics Corporation, Vattenfall Engineering AB and GSE Systems, Inc. (dated as of April 13, 1994). Previously filed in connection with the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on April 24, 1995 and incorporated herein by reference.
b.	GSE Systems, Inc. 1995 Long-Term Incentive Plan, amended as of April 5, 1999. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 1999 and incorporated herein by reference. *
c.	Form of Option Agreement Under the GSE Systems, Inc. 1995 Long-Term Incentive Plan. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 22, 1996 and incorporated herein by reference. *
d.	Office Lease Agreement between Sterling Rutherford Plaza, L.L.C. and GSE Systems, Inc. (dated as of February 10, 1998). Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 21, 1998 and incorporated herein by reference.
e.	Office Lease Agreement between Red Branch Road, L.L.C. and GSE Systems, Inc. (dated February 10, 1998). Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 21, 1998 and incorporated herein by reference.
f.	Warrant Agreements with GP Strategies and ManTech International Corporation (dated September 13, 1999). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 15, 2001 and incorporated herein by reference.
g.	Change of Control Agreements between GSE Systems, Inc. and Jerry Jen and Jeffery G. Hough (dated March 10, 2000). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 1, 2001 and incorporated herein by reference. *
h.	\$1,000,000 promissory note dated June 25, 2001 to ManTech International Corporation. Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on August 1, 2001 and incorporated herein by reference.
i.	Preferred Stock Issuance Agreement by and between GSE Systems, Inc. and ManTech International Corporation (dated December 5, 2001). Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on December 12, 2001 and incorporated herein by reference.



- j. Asset Sale and Purchase Agreement between GSE Systems, Inc. and Novatech LLC dated September 25, 2003. Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securities and Exchange Commission on October 10, 2003 and incorporated herein by reference.
- k. Management Services Agreement between GSE Systems, Inc. and GP Strategies Corporation dated January 1, 2004. Previously filed in connection with the GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on April 14, 2004 and incorporated herein by reference.
- l. First Amendment dated March 30, 2004 to the Financing and Security Agreement among General Physics Corporation, Skillright, Inc., GSE Systems, Inc., GSE Power Systems, Inc., and MSHI, Inc. and Wachovia Bank, National Association. Previously filed in connection with the GSE Systems, Inc. Form 10-K filed with the Securities and Exchange Commission on April 14, 2004 and incorporated herein by reference.
- m. Third Amendment dated July 30, 2004 to the Financing and Security Agreement among General Physics Corporation, Skillright, Inc., GSE Systems, Inc., GSE Power Systems, Inc. and MSHI, Inc. and Wachovia Bank National Association. Previously filed in connection with the GSE Systems, Form 10-Q filed with the Securities and Exchange Commission on November 14, 2004 and incorporated herein by reference.

21. Subsidiaries.

- a. List of Subsidiaries of Registrant at December 31, 2004. \*\*

23. Consents of Experts and Counsel

- a. Consent of KPMG LLP \*\*

24. Power of Attorney

- a. Power of Attorney for Directors' and Officers' Signatures on SEC Form 10-K. \*\*

Exhibit	Description of Exhibit
31.1	Certification of the Chief Executive Officer of the Company pursuant to Securities and Exchange Act Rule 13d-14 (a)/15d-14(a), as adopted pursuant to Section 302 and 404 of the Sarbanes-Oxley Act of 2002. **
31.2	Certification of the Chief Financial Officer pursuant to Securities and Exchange Act Rule 13d-14(a)/15d-14(a), as adopted pursuant to Section 302 and 404 of the Sarbanes-Oxley Act of 2002. **
32.1	Certification of the Chief Executive Officer and Chief Financial Officer of the Company pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. **
99.	Additional Exhibits
a.	Form of Right of First Refusal Agreement. Previously filed in connection with Amendment No. 3 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on July 24, 1995 and incorporated herein by reference.
*	Management contracts or compensatory plans required to be filed as exhibits pursuant to Item 14 (c) of this report.
**	Filed herewith.

## Exhibit 21.1

### SUBSIDIARIES OF REGISTRANT AT DECEMBER 31, 2004

The companies listed below are directly or indirectly owned 100% by GSE Systems, Inc. and are included in its consolidated financial statements.

o MSHI, Inc., GSE Power Systems AB, GSE Process Solutions, Inc., GSE Erudite Software, Inc. and GSE Engineering Systems (Beijing) Company Ltd. are wholly owned subsidiaries of GSE Systems, Inc.

o GP International Engineering & Simulation, Inc. and GSE Services Company LLC. are wholly owned subsidiaries of GSE Power Systems, Inc. which is a wholly owned subsidiary of MSHI, Inc.

o GSE Process Solution BV is a wholly owned subsidiary of GSE Process Solutions, Inc.

o J.L. Ryan, Inc., acquired by GSE Power Systems, Inc. in December 1997, has been merged with and into GSE Power Systems, Inc. as of February 1998, with GSE Power Systems, Inc. being the surviving corporation.

Name	Place of Incorporation or Organization
MSHI, Inc.	State of Virginia
GSE Power Systems AB	Sweden
GSE Erudite Software, Inc.	State of Delaware
GP International Engineering & Simulation, Inc.	State of Delaware
GSE Services Company LLC.	State of Delaware
GSE Power Systems, Inc.	State of Delaware
GSE Engineering Systems (Beijing) Company, Ltd	Peoples Republic of China
GSE Process Solutions, Inc.	State of Delaware
GSE Process Solutions BV	Netherlands

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors  
GSE Systems, Inc.

We consent to the incorporation by reference in the registration statement (No. 333-08805) on Form S-8 of GSE Systems, Inc. of our report dated March 15, 2005 relating to the consolidated balance sheets of GSE Systems, Inc. and subsidiaries as of December 31, 2004 and 2003, and the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 2004, which report appears in the December 31, 2004 annual report on Form 10-K of GSE Systems, Inc.

*/S/ KPMG LLP  
Baltimore, Maryland  
March 15, 2005*

**POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS that the undersigned Officers and Directors of GSE Systems, Inc., a Delaware corporation, hereby constitute and appoint John Moran and Jeffery G. Hough, and each of them, the true and lawful agents and attorneys-in-fact of the undersigned with full power and authority in said agents and attorneys-in-fact, and in any one or both of them, to sign for the undersigned and in their respective names as Officers and Directors of the Corporation, the Annual Report of Form 10-K of the Corporation to be filed with the Securities and Exchange Commission, Washington, D.C., under the Securities Exchange Act of 1934, as amended, and any amendment or amendments to such Annual Report, hereby ratifying and confirming all acts taken by such agents and attorneys-in-fact, or any one or more of them, as herein authorized. This Power of Attorney, which is dated as of January 5, 2005, may be executed in any number of counterparts, and such signatures may be by means of facsimile or other means of transmission.

<i>Name</i>	<i>Title</i>
<i>/s/Jerome I. Feldman</i> ----- Jerome I. Feldman	Chairman of the Board
<i>/s/ John V. Moran</i> ----- John V. Moran	Chief Executive Officer and Director (Principal Executive Officer)
<i>/s/Chin-our Jerry Jen</i> ----- Chin-our Jerry Jen	President, Chief Operating Officer and Director
<i>/s/ Jeffery G. Hough</i> ----- Jeffery G. Hough	Senior Vice President and Chief Financial Officer (Principal Finance and Accounting Officer)
<i>/s/ Sheldon L. Glashow, Ph.D.</i> ----- Sheldon L. Glashow, Ph.D.	Director
<i>/s/ Scott N. Greenberg</i> ----- Scott N. Greenberg	Director
<i>/s/ Roger L. Hagenruber, Ph.D.</i> ----- Roger L. Hagenruber, Ph.D.	Director
<i>/s/ Andrea Kantor</i> ----- Andrea Kantor	Director
<i>/s/ Joseph W. Lewis</i> ----- Joseph W. Lewis	Director
<i>/s/ George J. Pedersen</i> ----- George J. Pedersen	Director
<i>/s/ Douglas Sharp</i> ----- Douglas Sharp	Director



Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

I, John Moran, certify that:

1. I have reviewed this annual report on Form 10-K of GSE Systems, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonable likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

*Date: March 17, 2005*

*/s/ John V. Moran*

-----  
*John V. Moran*  
*Chief Executive Officer*  
*(Principal Executive Officer)*

Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

I, Jeffery G. Hough, certify that:

1. I have reviewed this annual report on Form 10-K of GSE Systems, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonable likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

*Date: March 17, 2005*

*/s/ Jeffery G. Hough*

-----  
*Jeffery G. Hough*  
*Senior Vice President and Chief Financial Officer*  
*(Principal Financial and Accounting Officer)*



**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350  
AS ADOPTED PURSUANT TO**

**SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K of GSE Systems, Inc. (the "Company") for the year ended December 31, 2004 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to such officer's knowledge:

- (1) The report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

*Date: March 17, 2005*

*/s/ John V. Moran*

*/s/ Jeffery G. Hough*

-----  
*John V. Moran*  
*Chief Executive Officer*

-----  
*Jeffery G. Hough*  
*Senior Vice President and Chief Financial Officer*

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**End of Filing**

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