

GSE SYSTEMS INC

FORM 10-K (Annual Report)

Filed 03/30/99 for the Period Ending 12/31/98

Address	1332 LONDONTOWN BLVD SYKESVILLE, MD 21784
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CIK	0000944480
Symbol	GVP
SIC Code	7372 - Prepackaged Software
Industry	Software
Sector	Technology
Fiscal Year	12/31

GSE SYSTEMS INC

FORM 10-K (Annual Report)

Filed 3/30/1999 For Period Ending 12/31/1998

Address	9189 RED BRANCH ROAD COLUMBIA, Maryland 21045
Telephone	410-772-3500
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, 1998

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:

Common Stock, \$.01 par value
(Title of each class)

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 X No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of 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.

The aggregate market value of Common Stock held by non-affiliates as of March 15, 1999 was \$13,476,996 based on closing price of such stock on that date.

Number of shares of Common Stock outstanding as of March 15, 1999: 5,065,688.

DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates certain information by reference from the Registrant's definitive proxy statement to be filed for its 1999 annual meeting of shareholders.

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* to be incorporated by reference from the Proxy Statement for the registrant's 1999 Annual Meeting of Stockholders.

Cautionary Statement Regarding Forward-Looking Statements.

This Form 10-K contains certain "forward-looking statements," within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the safe harbors created by those Acts. These statements include the plans and objectives of management for future operations, including plans and objectives relating to the development of the Company's business in the domestic and international marketplace. All forward-looking statements involve risks and uncertainties, including, without limitation, risks relating to the Company's ability to enhance existing software products and to introduce new products in a timely and cost-effective manner, reduced development of nuclear power plants that may utilize the Company's products, a long pay-back cycle from the investment in software development, uncertainties regarding the ability of the Company to grow its revenues and successfully integrate operations through expansion of its existing business and strategic acquisitions, the ability of the Company to respond adequately to rapid technological changes in the markets for process control and simulation software and systems, significant quarter-to-quarter volatility in revenues and earnings as a result of customer purchasing cycles and other factors, dependence upon key personnel, and general market conditions and competition. See Risk Factors, below. The forward-looking statements included herein are based on current expectations that involve numerous risks and uncertainties as set forth herein, the failure of any one of which could materially adversely affect the operations of the Company. The Company's plans and objectives are also based on the assumptions that market conditions and competitive conditions within the Company's business areas will not change materially or adversely and that there will be no material adverse change in the Company's operations or business. Assumptions relating to the foregoing involve judgments with respect, among other things, to future economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the control of the Company. Although the Company believes that the assumptions underlying the forward-looking statements are reasonable, any of the assumptions could be inaccurate and there can, therefore, be no assurance that the forward-looking statements included in this Form 10-K will prove to be accurate. In light of the significant uncertainties inherent in the forward-looking statements included herein, the inclusion of such information should not be regarded as a representation by the Company or any other person that the objectives and plans of the Company will be achieved.

PART I

ITEM 1. BUSINESS.

GSE Systems, Inc. ("GSE Systems", or the "Company") designs, develops and delivers business and technology solutions by applying high-technology-related process control, high fidelity simulation, systems and services into applications for worldwide industries including energy and process manufacturing. The Company's solutions and services assist customers in improving quality, safety and throughput; reducing operating expenses; and enhancing overall productivity.

The Company's products are used in over 500 applications, representing over 200 customers in 30 countries, in the following industries: specialty chemical, food & beverage, petroleum refining, pharmaceutical, fossil and nuclear power generation, and metals.

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Recent Developments.

In 1998, the Company had significantly improved financial results over 1997. The third and fourth quarters of 1998 generated positive operating results for the core businesses of controls and simulation. These improved financial results are reflective of the Company's strategy, as previously disclosed, to return to its strengths within these core businesses, while controlling and reducing costs. The divestiture of certain operations outside of the core businesses was an integral part of this strategy.

In May 1998, the Company completed the sale of substantially all of the assets of GSE Erudite Software, Inc. ("Erudite Software") to Keane, Inc. ("Keane"), pursuant to an asset purchase agreement, dated as of April 30, 1998, by and among the Company, Erudite Software and Keane. In November 1998, the Company completed the sale of certain assets related to activities of its Oil & Gas business unit ("O&G"), to Valmet Automation (USA), Inc. ("Valmet"), pursuant to an asset purchase agreement, effective as of October 30, 1998, by and between the Company and Valmet. Both sales are more fully explained in "Liquidity and Capital Resources", and in "Notes to Consolidated Financial Statements."

Due to the poor financial results in 1997, the senior management of the Company has been substantially changed and current management has set a course to reduce costs and to return the Company's focus to its core businesses of controls and simulation. The Company is implementing this strategy utilizing two business units:

- * Power, which is primarily concentrated in the power generation industry, and
- * Process, which utilizes process controls and simulation in various process industries.

Having completed the initial phase of its strategy to return to its core businesses, the Company has begun pursuit of strategic growth opportunities consistent with these core businesses. Generally, the Company is seeking complimentary opportunities that management believes can be implemented without diverting the focus of the Company or its management from its internal strengths and plans for organic growth.

The Company's Common Stock had previously traded on the NASDAQ National Market System under the symbol "GSES". In January 1999, the Company's Common Stock was approved for listing the American Stock Exchange, where it now trades under the symbol "GVP".

Further changes to senior management of the Company have been completed over the last twelve months and the current management plans to continue to manage costs and maintain the Company's focus on its core businesses of controls and simulation.

The management team of the Company believes that aforementioned developments will provide for a viable operating entity and will position the Company for success in the future.

Background.

GSE Systems was formed on April 13, 1994, by ManTech International Corporation ("ManTech"), GP Strategies Corporation ("GP Strategies" and formerly known as "National Patent Development Corporation" or "NPDC") and its affiliates, General Physics Corporation ("GPC") and SGLG, Inc. ("SGLG" and formerly known as "GPS Technologies, Inc." or "GPS"); and Vattenfall AB ("Vattenfall") to consolidate the simulation and related businesses of their affiliates, GSE Power Systems, Inc. ("Power Systems" and formerly known as "Simulation, Systems & Services Technologies Company" or "S3 Technologies"), GP International Engineering & Simulation, Inc. ("GPI") and GSE Power Systems AB ("Power Systems AB" and formerly known as "EuroSim AB" or "EuroSim"). 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 ("TI"), which the Company operates as GSE Process Solutions, Inc. ("Process Solutions").

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In April 1996, the Company aligned its operating groups into three strategic business units (SBUs) to better serve its then primary vertical markets - Power, Process and Oil & Gas. The realignment allowed the Company to focus on providing all of its technologies to these markets, while addressing the specific needs of each market and delivering industry specific solutions.

In May 1996, the Company acquired Erudite Software, a regional provider of client/server technology, custom application software development, training services, hardware/software sales, and network design and implementation services. Erudite Software was subsequently combined with a small pre-existing consulting group within the Company to form the Company's Business Systems unit.

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 has positioned the Company to be more competitive for modifications and upgrade services projects within the nuclear simulation market.

In April 1998, the Company divested the Erudite Software business to Keane Inc. for approximately \$9 million in cash. In addition to the cash at closing, Keane has issued a promissory note for an additional \$1 million to be paid to GSE Systems on the first anniversary of the closing, subject to offset in the case of any claims for indemnification. See "Liquidity and Capital Resources" and "Notes to Consolidated Financial Statements".

In November 1998, the Company divested certain assets of the Oil & Gas business unit to Valmet Automation (USA), Inc. ("Valmet") for cash, plus the assumption of certain identified liabilities. The transaction also provides that the Company remain responsible for certain cost overruns, claims and unassumed liabilities. Included in the sale was an assignment to Valmet of all the

Company's rights to the S/3 SCADA (TM) product, a license for Valmet to use the Company's SimSuite Pipeline(TM) product, and an assignment of GSE's rights and obligations under certain customer contracts, maintenance and support arrangements. See "Liquidity and Capital Resources" and "Notes to Consolidated Financial Statements".

Business Strategy.

GSE Systems possesses the ability to combine real-time control automation, real-time simulation and application engineering for true problem solving techniques and solutions. The Company believes this provides a technological advantage which, when combined with its focused efforts on targeted industry markets and defined Application Solution approach, allows its staff to assess, define, develop, and apply innovative solutions that meet the current and future industry-specific needs of its customers.

Users in the markets served by the Company want to focus their resources on their own customers and wish to spend less resources on managing areas such as control and simulation systems, which are the core strengths of GSE. Its products and services are designed to help its customers solve problems and create opportunity within these areas.

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Within the targeted industry segments, the Company seeks customers who will make investments based primarily on one of the following four basic goals:

- * Increase in yield or efficiency
- * Improvement in quality
- * Solution to an environmental concern
- * Solution a safety concern

All of these directly or indirectly impact the profitability of a particular customer. GSE Systems utilizes its expertise within real-time control automation, real-time simulation and application engineering to provide solutions to its customers in those areas.

The Company believes that GSE Systems can partner with customers to help provide them with cost-effective solutions for problems associated with simulation and control, which would allow its customers to focus their resources on their own strengths.

Services and Products.

GSE Systems has developed its knowledge and expertise in process control and simulation systems which are utilized to improve, control and model processes. This expertise is concentrated heavily in the process industries, which include the chemicals, food & beverage, and pharmaceuticals fields, as well as in the power generation industry, where the Company is a world leader in nuclear power plant simulation.

As the Microsoft Windows NT(R) operating environment continues to evolve, the Company has continued the migration of its products to this platform in such a way as to assure current customers' legacy applications will function properly while at the same time offering the advantages of the new technology. Although the Company uses open standards for its products, the Company's standard system configurations are based on proprietary technology and know-how, which are necessary to meet the requirements of its customers in the controls and simulation markets.

The Company's business model is based on software licensing and value-added services, as well as hardware sales. Because this model is based primarily on software and value-added services, the Company believes that it can maintain its business model in an environment of rapidly decreasing hardware costs.

In the Process Business Unit, the flagship product is a Distributed Control System ("DCS") product, known as the D/3 DCS(TM) that is highly flexible and open. This product is a real-time system, which uses multiple process control modules to monitor, measure, and automatically control variables in both continuous and complex batch processes, as well as form the platform for plant-wide information for use by operators, engineers and management.

Other products include the following:

- * FlexBatch(R), a flexible batch manufacturing system used to facilitate the rapid creation of various batch production processes;
- * TotalVision(TM), which is a graphical system that provides a client/server-based human-machine interface for real-time process and plant information; and
- * SABL(TM), which is a sophisticated batch and sequential manufacturing software language that permits the scheduling and tracking of raw materials and finished products, data collection and emergency shutdown procedures.

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The Company's proprietary technology also includes real-time, dynamic simulation tools and products that are used to develop high fidelity simulations for use in petroleum refineries, chemical processing plants and other industrial plants. The most prominent set of products and tools is known as SimSuite Pro(TM), which facilitates design verification, process optimization and operator training.

The Power Business Unit focuses on developing high fidelity, real time, dynamic simulators for nuclear and fossil power plants for use in both operator training and plant optimization. GSE's SimSuite Power (TM) set of auto-code generators provides state of the art simulation of flow processes, logic and control systems and electrical distribution systems within a power plant. This technology is both licensed by the Company to its customers as well as used by the Company to develop simulators for its customers.

In addition, other products include:

* SimExec (TM), a Windows NT(R) based simulation executive system which controls all simulation activities and allows for off-line software development environment in parallel with the training environment.

* RACS, a fully integrated Access Control and Intrusion Detection System ideally suited for nuclear power plant security applications, and other large, multi-access facilities.

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

The Company also provides value-added 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.

Customers.

The Company has provided over 500 simulation and process control systems to an installed base of over 200 customers worldwide. In 1998, approximately 47% of the Company's worldwide revenue was generated from end users outside the United States.

The Company's customers include, among others, Archer Daniels Midland Company, Bethlehem Steel Corporation, BASF Corporation, Cargill Incorporated, Carolina Power and Light Company, Commonwealth Edison Company, Eskom South Africa, Karnarft Sakerhet & Utbildning AB, Miller Brewing Company, and Pacific Northwest National Laboratory.

No individual customer represented more than 10% of the Company's 1998 revenue.

Strategic Alliances.

In recent years, a high portion of the Company's international business has come from major contracts in Europe, the republics of the former Soviet Union, and the Pacific Rim. 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 ManTech China Systems Corporation; Siemens AG (Europe); All Russian Research Institute for Nuclear Power Plant Operation (Russia); Kurchatov Institute (Russia); Samsung Electronics (Korea); Toyo Engineering Corporation (Japan); and Institute for Information Industry (Taiwan). These alliances have enabled the Company to penetrate work in these regions by combining its technological expertise with the regional or local presence and knowledge of its partners.

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Also, the Company continues to believe that it must have strong solutions partners as well as strong technology partners in order to address the myriad of systems needs of its customers in the various geographical areas in which they do business.

Sales and Marketing.

The Company markets its products and services through a network of direct sales staff, agents and representatives, systems integrators and strategic alliance partners. The Company also employs personnel that support corporate advertising, literature development and exhibit/conference participation.

GSE Systems employs a direct sales force in the continental United States which is regionally based, market focused and trained on its product and service offerings. Market-oriented business and customer development teams define and implement specific campaigns to pursue opportunities in the power, process and manufacturing marketplaces. This effort is supported by an extensive, regionally-based support organization focused on the current customer installed base. The Company's ability to support its multi-facility, international and/or multinational clients, is facilitated by its network of offices throughout the U.S. and overseas. Within the U.S., the Company maintains offices in: Georgia, Louisiana, Maryland, North and South Carolina, Pennsylvania and Texas. Outside the U.S., the Company has offices in Sweden, Belgium, Singapore, Japan, Taiwan and Korea. In addition to its offices located overseas, the Company's ability to conduct international business is enhanced by its multilingual and multicultural work force.

Strategic alliance partners, systems integrators and agents represent the Company's interests in Russia, Germany, Switzerland, Spain, Czech Republic, Slovakia, United Arab Emirates, India, South Africa, Venezuela, Mexico, Argentina, and the Peoples Republic of China.

Product Development.

In 1998, the Company continued investment in the conversion of its D/3 DCS(TM) product to the Microsoft Windows NT(R) platform, and the productization of its SimSuite(TM) software tools. During the years ended December 31, 1998, 1997 and 1996, gross research and product development expenditures for the Company were \$4.3 million, \$5.1 million and \$5.8 million, respectively. Capitalized software development costs totaled \$2.3 million, \$3.5 million and \$3.9 million during the years ended December 31, 1998, 1997 and 1996. See Note 2 of "Notes to Consolidated Financial Statements" for a discussion of the Company's policy regarding capitalization of software development costs.

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Industries Served.

The following chart illustrates the approximate percentage of the Company's 1998, 1997 and 1996 revenues, respectively, attributable to each of the major industries served by the Company:

	1998	1997	1996
	-----	-----	-----
Power	42 %	31 %	45 %
Process	49 %	46 %	32 %
Other	9 %	23 %	23 %
	-----	-----	-----
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, 1998, the Company's aggregate contract backlog totaled approximately \$52.7 million. At December 31, 1997, contract backlog totaled \$39.0 million.

Employees.

As of December 31, 1998, the Company had 371 employees, which represents a decrease of approximately 30% compared to December 1997. This decrease is primarily attributable to the termination of employment of 151 and 21 individuals in connection with the divestitures of the assets of Erudite Software and O&G, respectively.

GSE Systems' operations are dependent on the efforts of its technical personnel and its senior management. Thus, recruiting and retaining capable personnel, particularly engineers, computer scientists and other personnel with expertise in computer software and hardware, as well as particular customer processes, are critical to the future performance of the Company. Competition for qualified technical and management personnel is substantial.

RISK FACTORS.

Fluctuations in Quarterly Operating Results, Market Price.

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 net income. The Company believes that these factors may cause the market price for 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. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

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International Sales and Operations.

Sales of products and the provision of services to end users outside the United States accounted for approximately 47% of the Company's consolidated revenues in 1998. The Company anticipates that international sales and services will continue to account for a significant portion of its revenues 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, as well as to customers in countries whose economies have suffered in the recent Asian financial crisis. 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. Furthermore, the Company's ability to expand its business into certain emerging international markets is dependent, in part, on the ability of its customers to obtain financing.

Revenues in the Nuclear Power Industry.

Although, the Company has reduced its reliance on the development of large application systems having multi-year delivery schedules, such as full-scope nuclear power plant simulation projects, the Company will continue to derive a significant portion of its revenues from customers in the nuclear power industry, particularly the international 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 affects 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, general economic conditions and the ability of customers to obtain adequate financing.

Revenues in the Chemicals Industry.

The Company derives a portion of its revenues from companies in the chemicals industry. Accordingly, the Company's future performance is dependent to a certain extent upon the demand for the Company's products by customers in the chemical industry. The Company's revenues may be subject to period-to-period fluctuations as a consequence of industry cycles, as well as general domestic and foreign economic conditions and other factors affecting spending by companies in the Company's target process industries. There can be no assurance that such factors will not have a material adverse effect on the Company's business, operating results and financial condition.

Product Development and Technological Change.

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 and process control technologies. The life cycles for software modeling tools, display system software, process control and simulation technologies 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's products are offered in markets affected by technological change and emerging standards which are influenced by customer preferences. The Company has expended significant resources in developing versions of its core products which operate in the increasingly-popular Windows NT(R) environment, however, there can be no assurance of customer acceptance of these Windows NT(R)-based products or that these products will be competitive with products offered by the Company's competitors. Although the Company believes that no significant trends to migrate to other operating platforms currently affect the markets for the Company's products, there can be no assurance that customers will not require compatibility with such other operating platforms in the future.

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Intellectual Property Rights.

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 generally 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 generally 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.

Competition.

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 and process automation 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.

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Year 2000 Legal Climate, Generally.

Significant uncertainty exists in the software industry concerning the potential effects of failure of computer programs and embedded systems to adequately function through and after the Year 2000 millenium change. The Company is currently implementing a testing and compliance program to ascertain whether and to what extent the Company may need to update certain of its software products to become Year 2000 ready. The Company does not intend to test or modify all prior versions of its software products, test the behavior of current products when used on non-Year 2000-ready computer systems, test custom applications developed by or for customers, or test certain current software products that the Company plans to replace with either new software products or Year 2000 ready releases by the end of 1999. Certain of the Company's software products are currently Year 2000 ready; however, the Company has not yet completed testing on many of the other software products that it intends to test. There can be no assurance that the Company will complete in a timely manner the testing of such software products or the development of any updates necessary to render such software products Year 2000 ready. There can be no assurance that the Company will not encounter Year 2000 problems arising from recently acquired technologies or any other technologies that the Company may acquire in the future. Moreover, the ability of the Company's software products to comply with Year 2000 requirements depends in part upon the availability of Year 2000 ready versions of operating systems and software applications used by or with the Company's products. There can be no assurance that Year 2000 problems will not cause the Company to incur material expenses in responding to such problems, result in third-party claims against the Company or otherwise have a material adverse effect on the Company's business, operating results and financial condition.

The Company has reviewed certain internal information systems to assess Year 2000 compliance. The Company expects that its internal system development plans will address the Year 2000 issue and will correct mission-critical systems. The Company believes that the cost of any modifications will not be material. However, the Company's ability to implement its information systems plan and to make the necessary modifications or replacements may be adversely affected by a number of factors outside the control of the Company, including the availability and cost of trained personnel and the ability of such personnel to acquire Year 2000 ready systems and otherwise to locate and correct all relevant computer codes.

The Company is also conducting an assessment of certain other systems that may affect its operations in order to more fully identify and plan for any Year 2000 risks. If there are unidentified dependencies on such systems to operate the business, or if any required modifications are not completed on a timely basis or are more costly to implement than currently anticipated, the Company's business, financial condition or results of operations could be materially adversely affected.

Reliance on Key Technical and Executive Personnel.

The Company's operations are dependent on the efforts of its technical personnel and its senior management. Thus, recruiting and retaining capable personnel, particularly engineers, computer scientists and other personnel with expertise in computer software and hardware, are critical to the future performance of the Company. Competition for qualified technical and management personnel is substantial, and there can be no assurance that the Company will be successful in attracting and retaining the personnel it requires to continue to operate profitably.

Legal Liability.

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. The failure or malfunction of one of the Company's systems or devices could create potential liability for substantial monetary damages and environmental cleanup costs. Such damages or claims could exceed the applicable coverage of the Company's insurance. Although management has no knowledge of material liability claims against the Company to date, such potential future claims could have a material adverse effect on the business or financial condition of the Company. Certain of the Company's products and services are used by the nuclear power industry; although the Company believes that it does not have significant liability exposure associated with such use as nearly all such products and services relate to training, and 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.

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Influence of Affiliate Stockholders.

As of the date of this report, certain directors, executive officers and other parties which are affiliates of the Company beneficially own approximately 45% of the Common Stock of the Company. If these stockholders vote together as a group, they will be able to exert significant influence on the business and affairs of the Company, including the election of individuals to the Company's Board of Directors, and the outcome of actions which require stockholder approval.

ITEM 2. PROPERTIES.

In early 1998, the Company entered agreements whereby the lease for its then-existing Columbia facility was terminated and the operations that occupied such facility were relocated into two separate facilities during the second quarter of 1998; one of these facilities is in Columbia, Maryland (approximately 53,000 square feet) and is occupied by the operations of Power Systems, as well the Company's corporate headquarters offices and support functions; the other facility is in Baltimore, Maryland (approximately 33,000 square feet) and is occupied by the operations of Process Solutions. During the first quarter of 1999, the Company has leased an additional 6,000 square feet in the Baltimore facility. Each of the leases for these smaller facilities has a term of ten (10) years.

In addition, the Company also leases office space domestically in Georgia, Louisiana, Texas, Pennsylvania, North and South Carolina, as well as in Belgium, Japan, Korea, Singapore, Sweden and Taiwan. The Company leases these facilities for terms ending between 1999 and 2002.

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 which, 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, 1998.

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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 Common Stock reported by the Nasdaq National Market System.

	1997	High	Low
First Quarter.....		\$ 11	\$ 5 3/4
Second Quarter.....		\$ 7 1/4	\$ 4 3/8
Third Quarter.....		\$ 6 3/4	\$ 3 3/4
Fourth Quarter.....		\$ 6 3/4	\$ 3
	1998	High	Low
First Quarter.....		\$ 3 1/2	\$ 2
Second Quarter.....		\$ 5	\$ 2 1/4
Third Quarter.....		\$ 3 11/16	\$ 1
Fourth Quarter.....		\$ 3 1/2	\$ 2 1/4

The Company's Common Stock had previously traded on the NASDAQ National Market System under the symbol "GSES". In January 1999, the Company's Common Stock was approved for listing the American Stock Exchange, where it now trades under the symbol "GVP".

There were approximately 41 holders of record of the Common Stock as of March 15, 1999. Based upon information available to it, the Company believes there are approximately 700 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.

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.

In 1998, the Company granted stock options to two directors to acquire 50,000 shares of Common Stock in the aggregate at an exercise price of \$2.25 (each such director has agreed that he would not exercise his option with respect to more than 12,500 shares until such time as stockholder approval is obtained).

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ITEM 6. SELECTED FINANCIAL DATA.

The following tables present selected combined financial data of Power Systems, GPI, Power Systems AB and Erudite Software with respect to the period January 1, 1994 through April 13, 1994 (unaudited) and of the Company for periods after April 13, 1994. Historical results of the Company from April 13, 1994 through December 31, 1994 include the operations of Power Systems, GPI, Power Systems AB and Erudite Software. Power Systems, GPI, Power Systems AB and Erudite Software are collectively referred to as the "Predecessors" with respect to the period between January 1, 1994 and April 13, 1994. The balance sheet data of the Company as of December 31, 1994 includes the Predecessors and Process Solutions which was acquired on December 30, 1994, except for certain international operations of the TI process systems business which were acquired by the Company in the second quarter of 1995. Historical results of operations and balance sheet data for 1998, 1997, and 1996 include the Predecessors and Process Solutions. The financial information has been derived from the historical financial statements of the Predecessors and the Company. Erudite Software was acquired on May 22, 1996 through a merger. The merger was accounted for by using the pooling of interests method. Accordingly the Company's and Predecessors' financial statements have been restated to include, on a historical cost basis, the accounts and operations of Erudite Software for all periods presented. The Company disposed of substantially all of the assets of Erudite Software as of April 30, 1998. In November 1998, the Company completed the sale of certain assets related to activities of its Oil & Gas business unit ("O&G"), effective as of October 30, 1998. The balance sheet data of the Company as of December 31, 1997 includes the operations of Ryan which was acquired by Power Systems as of December 1, 1997. The statement of operations data for the year ended December 31, 1997 includes the activity of Ryan from the date of its acquisition.

For information and disclosures regarding the Company's business segments, see Note 17 to the Consolidated Financial Statements.

	Predecessors Jan. 1 through April 13, 1994	Company Apr. 14 through December 31, 1994	1995	Year Ended December 31, 1996	1997	1998
(in thousands, except per share data)						

Statement of Operations Data:						
Revenues	\$ 14,659	\$ 37,085	\$ 96,060	\$ 96,033	\$ 79,711	\$ 73,718
Cost of revenue	10,380	27,932	65,592	63,679	58,326	49,814
	-----	-----	-----	-----	-----	-----
Gross profit	4,279	9,153	30,468	32,354	21,385	24,004
Operating expenses:						
Selling, general and administrative	2,628	6,313	21,815	24,192	27,320	20,345
Depreciation and amorization	420	1,125	2,341	2,111	2,368	1,768
Business combination costs	-	-	-	1,206	-	-
Employee severance and terminations costs	-	-	-	-	1,124	-
	-----	-----	-----	-----	-----	-----
Total operating expenses	3,048	7,438	24,156	27,509	30,812	22,113
	-----	-----	-----	-----	-----	-----
Operating income (loss)	1,231	1,715	6,312	4,845	(9,427)	1,891
Gain on sale of assets						550
Interest expense	(41)	(402)	(983)	(387)	(765)	(350)
Other (expense) income, net	43	192	364	394	(1,228)	326
	-----	-----	-----	-----	-----	-----
Income (loss) before income taxes	1,233	1,505	5,693	4,852	(11,420)	2,417
Provision (benefit) for income taxes	678	552	2,017	709	(2,717)	1,020
	-----	-----	-----	-----	-----	-----
Net income (loss)	\$ 555	\$ 953	\$ 3,676	\$ 4,143	\$ (8,703)	\$ 1,397
	=====	=====	=====	=====	=====	=====
Earnings (loss) per common share						
- Basic		\$ 0.26	\$ 0.91	\$ 0.82	\$ (1.72)	\$ 0.28
		=====	=====	=====	=====	=====
- Diluted		\$ 0.26	\$ 0.91	\$ 0.82	\$ (1.72)	\$ 0.27
		=====	=====	=====	=====	=====
Weighted average common shares outstanding						
- Basic		3,341	4,049	5,066	5,066	5,066
		=====	=====	=====	=====	=====
- Diluted		3,341	4,059	5,073	5,066	5,107
		=====	=====	=====	=====	=====
	As of Apr. 13, 1994	As of December 31,				
		1994	1995	1996	1997	1998
Working capital	\$ (434)	\$ 1,269	\$ 16,077	\$ 13,867	\$ 1,646	\$ 4,058
Total assets	35,655	42,312	54,688	51,006	48,362	48,743
Long-term liabilities	15,570	15,783	6,055	2,580	2,369	3,350
Series A Preferred Stock	-	2,400	-	-	-	-
Stockholders' equity (deficit)	(2,563)	(4,229)	20,532	24,693	15,924	17,089

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

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.

	Year ended December 31,					
	1998	%	1997	%	1996	%
Contract revenue	\$ 73,818	100.0%	\$ 79,711	100.0%	\$ 96,033	100.0%
Cost of revenue	49,814	67.5%	58,326	73.2%	63,679	66.3%
Gross profit	24,004	32.5%	21,385	26.8%	32,354	33.7%
Operating Expenses:						
Selling, general and administrative	20,345	27.6%	27,320	34.3%	24,192	25.2%
Depreciation and amortization	1,768	2.4%	2,368	3.0%	2,111	2.2%
Business combination costs	-	-	-	-	1,206	1.3%
Employee severance and termination costs	-	-	1,124	1.4%	-	-
Total operating expenses	22,113	30.0%	30,812	38.7%	27,509	28.6%
Operating income (loss)	1,891	2.6%	(9,427)	-11.8%	4,845	5.0%
Gain on sale of assets	550	0.7%	-	-	-	-
Interest expense	(350)	-0.5%	(765)	-1.0%	(387)	-0.4%
Other income (expense)	326	0.4%	(1,228)	-1.5%	394	0.4%
Income (loss) before income taxes	2,417	3.3%	(11,420)	-14.3%	4,852	5.0%
Provision for (benefit from) taxes	1,020	1.4%	(2,717)	-3.4%	709	0.7%
Net income (loss)	\$ 1,397	1.9%	\$ (8,703)	-10.9%	\$ 4,143	4.3%

Comparison of 1998 to 1997.

Contract Revenue. Total contract revenue was \$73.8 million and \$79.7 million for the years ended December 31, 1998 and 1997, respectively. This \$5.9 million (7.4%) decrease in revenue was primarily attributable to the disposition of substantially all of the assets of its wholly owned subsidiary, Erudite Software, and the disposition of certain assets related to activities of O&G, as previously disclosed. Revenue of \$5.3 million and \$18.0 million from Erudite Software are included in 1998 and 1997, respectively and revenue of \$1.1 million and \$2.3 million from O&G are included in 1998 and 1997, respectively.

Revenue from its two core businesses, operated through the Process and Power business units, increased in 1998. The Process business unit increased revenue by \$1.7 million to \$36.5 million in 1998 from \$34.8 million in 1997, or 4.9%, due to increases in customer orders. The Power business unit increased revenue by \$6.4 million to \$30.9 million in 1998 from \$24.5 million in 1997, or 26.1% primarily due to revenues generated by its domestic service contracts resulting from the acquisition of Ryan, as previously disclosed, and increases in customer orders.

The majority of the Company's revenues are from fixed price contracts. Any unexpected costs or unanticipated delays in connection with the performance of fixed priced contracts could adversely affect the Company's financial results.

International sales were approximately \$35 million or 47% of total revenues in 1998 and \$29.1 million or 36.5% of total revenues in 1997, an increase which reflects increases in the core businesses. The Company expects that international sales will continue to represent a significant portion of its total revenues. The Company currently sells products and services to customers in emerging market economies such as Russia, Ukraine, Bulgaria, and the Czech Republic, as well as customers in countries whose economies have suffered in the recent Asian financial crisis. The Company's international operations are subject to various risks, including exposure to currency fluctuation, regulatory requirements, political and economic instability and trade restrictions. The Company has taken steps to reduce these risks, particularly risks associated with doing business in emerging markets, but there can be no assurance that the above mentioned risk factors will not have a material adverse affect on the Company's business, financial condition or results of operations.

Gross Profit. Gross profit increased to \$24.0 million in 1998 from \$21.4 million in 1997, or 12.2%, primarily due to increased customer orders and improved margins in the core businesses, and the disposition of unprofitable businesses. Gross profit percentage was 32.5% in 1998 compared to 26.8% in 1997, reflecting improved margins in the core businesses and the disposition of unprofitable businesses.

Selling, General and Administrative Expenses. Selling, general and administrative expenses decreased to \$20.3 million, or 27.6% of revenues, during the year ended December 31, 1998 from \$27.3 million, or 34.3% of revenue, during the corresponding period in 1997. The decrease in these expenses in 1998 is attributable to the disposition of unprofitable businesses, reduced facilities costs in 1998 due to the relocation of the primary offices of the Company, and the continuing cost containment efforts previously disclosed, as well as increased costs in 1997 for professional services related to a lawsuit, a reserve of \$600,000 recorded to reduce certain Korean receivables to their estimated realizable value as a result of the Asian financial crisis, and costs of \$852,000 associated primarily with the future lease commitments on the unused portion of the former Columbia, Maryland leased facility for which the Company will derive no future benefit.

Gross research and product development expenditures were \$4.3 million and \$5.1 million for the years ended December 31, 1998 and 1997, respectively. Capitalized software development costs totaled \$2.3 million and \$3.5 million, during the years ended December 31, 1998 and 1997, respectively. Net research and development costs included in selling, general and administrative expenses were \$2.1 million and \$1.6 million during the years ended December 31, 1998 and 1997, respectively. The Company continued investing in the conversion of its D/3 DCS (TM) product to the Microsoft Windows NT(R) platform and the productization of its SimSuite(TM) software tools.

Employee Severance and Termination Costs. The Company recorded a net charge for severance and other employee obligations of \$1.1 million in 1997 in connection with cost reduction efforts initiated to offset the impact of a decrease in contract revenues. Of this charge, \$976,000 was expended as of December 31, 1997 and the remaining balance was expended in 1998.

Depreciation and Amortization. Depreciation expense amounted to \$1.2 million and \$2.1 million during the years ended December 31, 1998 and 1997, respectively. This decrease was primarily attributable to the disposition of assets included in the Erudite Software and O&G sales.

Amortization of goodwill and intangibles was \$365,000 and \$219,000 during the years ended December 31, 1998 and 1997, respectively. This increase primarily resulted from the amortization of certain intangible assets acquired as a result of the acquisition of Ryan in December of 1997.

Operating Income (Loss). Operating income amounted to \$1.9 million, or 2.6% of revenues, and operating (loss) amounted to (\$9.4) million, or (11.8%) of revenues, during the years ended December 31, 1998 and 1997, respectively. This significant increase in operating income reflects the disposition of unprofitable businesses, increases in customer orders, improved margins and reduced selling, general and administrative expenses in 1998 as compared to 1997.

Gain on sale of assets. Gain on sale of assets reflects the net pre-tax gain realized on the disposition of the Erudite Software and the O&G assets, as previously disclosed. In the third quarter of 1998, the Company recognized a (\$5.0) million pre-tax loss on the disposition of the O&G assets. During the second quarter, the Company recorded a gain of \$5.6 million on the sale of the Erudite Software assets. These sales and related gains and losses are described more fully under Note 3, Disposal of Assets - "Notes to Consolidated Financial Statements", "Liquidity and Capital Resources", below and by the provisions of the asset purchase agreements for such transactions, have been previously

disclosed and are incorporated herein by reference.

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Interest Expense. Interest expense decreased to \$350,000 in 1998 from \$765,000 in 1997. This decrease is attributable primarily to a significant decrease in the Company's borrowings under its lines of credit made during the period to fund working capital requirements.

Other Income (Expense). Other income amounted to \$326,000 in 1998, and other expenses amounted to \$1.2 million in 1997, resulting almost exclusively from recognized foreign exchange gains in 1998 and recognized foreign exchange losses in 1997 from the Company's Asian operations.

Provision for (Benefit from) Income Taxes. The Company's effective tax rate amounted to 42.2% in 1998. The difference between the statutory U.S. tax rate and the Company's effective tax rate for 1998 is primarily the result of the effects of foreign operations at different tax rates, state income taxes, and other non-deductible expenses reflected in the calculation of the 1998 tax provision. Due to the loss experienced in 1997, the Company recognized a tax benefit of \$2.7 million.

Comparison of 1997 to 1996.

Contract Revenue. Total contract revenue was \$79.7 million and \$96.0 million for the years ended December 31, 1997 and 1996, respectively. This \$16.3 million (17%) decrease in revenue was primarily attributable to a significant decrease in power plant simulation revenue, resulting from the conclusion of several full-scope nuclear power plant simulation projects in the first half of 1997, and a decrease in third party hardware sales by the Company's Business Systems unit, which decreases were only partially offset by a 12% increase in the domestic revenue of the Company's Process business. The Company as a whole continued its transition towards smaller and shorter-term projects that often include licenses of the Company's proprietary tools.

Revenues from fixed price contracts constitute approximately 90% of the Company's revenues for the past three years.

International sales were approximately \$29.1 million or 36.5% of total revenues in 1997 and \$48.2 million or 50.2% of total revenues in 1996, a decrease which reflected the significant reduction in power plant simulation revenue in 1997. This decrease notwithstanding, the Company expects that international sales will continue to represent a significant portion of its total revenues. The Company currently sells products and services to customers in emerging market economies such as Russia, Ukraine, Bulgaria, and the Czech Republic, as well as customers in countries whose economies have suffered in the recent Asian financial crisis. The Company's international operations are subject to various risks, including exposure to currency fluctuation, regulatory requirements, political and economic instability and trade restrictions. The Company has taken steps to reduce these risks, particularly risks associated with doing business in emerging markets, but there can be no assurance that the above mentioned risk factors will not have a material adverse affect on the Company's business, financial condition or results of operations.

Gross Profit. Gross profit decreased to \$21.4 million in 1997 from \$32.4 million in 1996, a decline of 33.9%, primarily due to lower revenues generated by power plant simulation contracts. Gross profit percentage was 26.8% in 1997 compared to 33.7% in 1996, reflecting a higher percentage of government contract-related revenues in the power simulation business with corresponding lower margins, an increase to the amortization of software development costs capitalized, lower labor utilization within the Business Systems unit, as well as reserves taken against certain contracts in 1997.

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Selling, General and Administrative Expenses. Selling, general and administrative expenses increased to \$27.3 million, or 34.3% of revenues, during the year ended December 31, 1997 from \$24.2 million, or 25.2% of revenues, during the corresponding period in 1996. The increase in these expenses in 1997 consisted of increased sales and marketing costs, primarily within the Business Systems unit, increased recruiting and relocation costs, and increased costs for professional services related to a lawsuit referred to in Part I, Item 3. Legal Proceedings, in the 1997 10-K. Additionally, the increase reflected a reserve of \$600,000 recorded to reduce certain Korean receivables to their estimated realizable value as a result of the Asian financial crisis. In the fourth quarter of 1997, the Company also recorded costs of \$852,000 associated primarily with the future lease commitments on the unused portion of the former Columbia, Maryland leased facility for which the Company would derive no future benefit.

Gross research and product development expenditures were \$5.1 million and \$5.8 million for the years ended December 31, 1997 and 1996, respectively. Capitalized software development costs totaled \$3.5 million and \$3.9 million, during the years ended December 31, 1997 and 1996, respectively. Net research and development costs expensed and included within selling, general and administrative expenses were \$1.6 million and \$1.9 million during the years ended December 31, 1997 and 1996, respectively. The Company continued investing in the conversion of its D/3 DCS(TM) product to the Microsoft Windows NT(R)

platform, enhancement of its S/3 SCADA(TM) System for the Microsoft Windows NT(R) platform and the productization of its SimSuite(TM) software tools.

Employee Severance and Termination Costs. The Company recorded a net charge for severance and other employee obligations of \$1.1 million in connection with cost reduction efforts initiated to offset the impact of a decrease in contract revenues. Of this charge, \$976,000 had been expended as of December 31, 1997.

Depreciation and Amortization. Depreciation expense amounted to \$2.1 million and \$1.9 million during the years ended December 31, 1997 and 1996, respectively. This increase was attributable to higher capital expenditures made in 1997 and 1996.

Amortization of goodwill and intangibles was \$219,000 and \$168,000 during the years ended December 31, 1997 and 1996, respectively. This increase resulted from amortization of certain intangible assets which were fully amortized as of December 31, 1997.

Business Combination Costs. In 1996, business combination costs related to the acquisition of Erudite Software, which consisted primarily of consulting fees, legal and accounting expenses, and compensation expense for the shares issued to employees by the owners of Erudite Software pursuant to stock transfer agreements, amounted to approximately \$1.2 million and were charged to operating expenses.

Operating (Loss) Income. Operating loss amounted to (\$9.4) million, or (11.8%) of revenues, and operating income amounted to \$4.9 million, or 5% of revenues, during the years ended December 31, 1997 and 1996, respectively. This significant decrease in operating income reflected the reduction in margin from power plant simulation projects, increased sales and marketing costs and employee severance and termination costs as well as several other fourth quarter adjustments. See Note 18 of "Notes to Consolidated Financial Statements".

Interest Expense. Interest expense increased to \$765,000 in 1997 from \$387,000 in 1996. This increase was attributable primarily to a significant increase in the Company's borrowings under its lines of credit made during the period to fund working capital requirements.

Other Income (Expense). Other expenses amounted to \$1.2 million in 1997, resulting almost exclusively from recognized foreign exchange losses of the Company's Asian operations. During 1996, \$394,000 in interest income was earned from short-term investments of excess cash during the year as well as proceeds from the sale of an equity interest in a joint venture.

(Benefit from) Provision for Income Taxes. Due to the loss experienced in 1997, the Company recognized a tax benefit of \$2.7 million as compared to the tax provision of \$709,000 recognized in 1996. The effective tax rate was different in 1997 as a result of reductions in the valuation allowance recognized as income by the Company in 1996.

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Liquidity and Capital Resources.

The Company has funded its activities primarily from borrowings under lines of credit. In 1998, the Company's operating activities used cash totaling approximately \$30,000, primarily related to the 1998 net income of \$1.4 million, together with increases in current assets and decreases to current liabilities, partially offset by non-cash items such as depreciation, amortization, the gain on the sale of assets and deferred income taxes. Management believes that it is more likely than not that the net deferred tax asset at December 31, 1998 is recoverable. For the year ended December 31, 1997, the Company's operating activities used cash of approximately \$3.8 million. At December 31, 1998, the Company had cash and cash equivalents of \$2.2 million compared to \$334,000 as of December 31, 1997.

The Company generated approximately \$4.6 million in cash from investing activities, made up primarily of \$9.0 million from the sale of assets, which was partially offset by \$2.3 million of capitalized software development costs and \$2.1 million of capital expenditures.

The Company's financing activities used cash of approximately \$2.6 million, consisting primarily of \$2.3 million in repayments under the Company's lines of credit.

The Company maintains, through its subsidiaries, two lines of credit that have been extended through June 30, 1999, based on modification agreements dated January 1, 1999. These lines of credit, which are cross-collateralized, provide for borrowing up to a total of \$8.0 million to support foreign letters of credit, margin requirements or foreign exchange contracts and working capital needs. The first line, for \$7.0 million, used by Power Systems, is 90% guaranteed by the Export-Import Bank of the United States ("EXIM"), is collateralized by substantially all of Power Systems' assets, and provides for borrowings up to 90% of eligible receivables and 50% of unbilled receivables. The continuation of this line is conditional based upon the Company's obtaining an extension on the EXIM guarantee through at least June 30, 1999. The Company has received preliminary approval from EXIM to extend the EXIM guarantee, which expires April 30, 1999, through March 31, 2000. Under the terms of the preliminary approval, the Power Systems' line would be reduced to \$6 million in connection with such an extension of the guarantee. The second line, for \$1.0 million, used by Process Solutions, is collateralized by substantially all of Process Solutions' assets, and provides for borrowing up to 85% of eligible receivables. Both lines are guaranteed by the Company and collateralized by substantially all of the Company's assets.

The lines require the Company to comply with certain financial ratios and preclude the Company from paying dividends and making acquisitions beyond certain limits without the bank's consent. In connection with the extension obtained as of January 1, 1999, certain of these covenants were modified, retroactive to December 31, 1998. The Company was in compliance with all modified covenants at December 31, 1998 and expects to maintain compliance with the covenants through maturity.

The Company has received a commitment letter from a financial institution to provide a new credit facility with a maturity date of March 31, 2000, which the Company expects to finalize by April 30, 1999. The terms and conditions of the new facility, which would provide for a \$6 million Power Systems' line and a \$3 million Process Solutions' line, are substantially the same as the current facility, including the requirement for the EXIM guarantee and the guarantees described below.

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In connection with the aforementioned existing lines of credit and the new facility, the Company has arranged for certain guaranties to be provided to the bank on its behalf by GP Strategies and ManTech. As previously disclosed, in consideration for the above-mentioned guaranties, the Company has granted each of ManTech and GP Strategies warrants to purchase shares of the Company's common stock; each of such warrants provide the right to purchase at least 150,000 shares of the Company's common stock at \$2.375 per share. The Company has recognized \$300,000 as the estimated fair value of such warrants in the consolidated financial statements. During 1998, the Company recognized \$180,000 of expense related to these warrants. The Company will expense the remainder of the fair value over the term of the guaranties.

Although the Company intends to replace its expiring credit facilities, as described above, there can be no assurance that such financing will be completed. In the event that the Company is unsuccessful in extending or obtaining new lines of credit, GP Strategies and ManTech each have agreed to provide working capital support of up to \$1.8 million (\$3.6 million in the aggregate) to the Company.

Management believes that the above actions will result in sufficient liquidity and working capital resources necessary in 1999 for planned business operations, debt service requirements, planned investments and capital expenditures.

In November 1998, the Company completed the sale of certain assets related to activities of its Oil & Gas business unit ("O&G"), to Valmet Automation (USA), Inc. ("Valmet"), pursuant to an asset purchase agreement, effective as of October 30, 1998, by and between the Company, and Valmet. The Company has recognized a loss before income taxes on this transaction, in the quarter ended September 30, 1998, of \$5.0 million. In connection with the sale of these assets, the Company has written off approximately \$2.9 million in capitalized software development costs, since all operations that would support the recoverability of these costs have been sold. The write-off of these costs is reflected in the calculation of the loss on the sale. The Company received approximately \$742,000 in cash, subject to certain adjustments, and Valmet assumed certain identified liabilities. Valmet purchased assets with a book value of approximately \$3.0 million.

The agreement with Valmet further stipulates that, subject to the occurrence of certain events, the Company is entitled to royalties over a five-year period relative to certain software of the Company, which was licensed to Valmet. Such royalties would not exceed \$1 million in the aggregate and would be recorded as earned. The Company is liable for any cost overruns on certain development and project contracts, beyond estimates stipulated in the asset purchase agreement, such liabilities not to exceed \$800,000. In addition to the \$800,000 overrun liability, the Company remains responsible for certain liabilities not assumed by Valmet, including certain liabilities unknown as of the date of closing. The Company has accrued \$400,000 and included such amount in the loss recognized on this transaction, based on a present estimate of exposure relative to these liabilities. The foregoing description of the Valmet asset purchase agreement is qualified in its entirety by the full text of such agreement, which was included as an exhibit to the Company's report on Form 8-K dated November 30, 1998, and is incorporated herein by reference. See Note 3, Acquisitions and Dispositions - "Notes to Consolidated Financial Statements" for a further discussion of the sale.

In May 1998, the Company completed the sale of substantially all of the assets of Erudite Software to Keane, Inc. ("Keane"), pursuant to an asset purchase agreement, dated as of April 30, 1998, by and among the Company, Erudite Software and Keane. The purchase price for the Erudite Software assets was \$9.9 million (\$8.9 million in cash and \$1.0 million in the form of an unsecured promissory note due on April 30, 1999, subject to certain adjustments) plus the assumption by Keane of certain operating liabilities totaling approximately \$2.2 million. Net cash proceeds to be received in 1998 in connection with the sale of Erudite Software, including transaction costs, is estimated at \$4.1 million, after reducing outstanding debt as described below. The foregoing description of the Keane asset purchase agreement is qualified in its entirety by the full text of the such agreement, which was included as an exhibit to the Company's Form 10-Q for the quarter ended March 31, 1998 and is incorporated herein by reference. See Note 3, Acquisitions and Dispositions - "Notes to Consolidated Financial Statements" for a further discussion of the sale.

The Company's additional commitments as of December 31, 1998 consisted primarily of leases on its headquarters and other facilities. Further, the performance of certain of the Company's customer contracts are secured by performance guaranties, amounting to \$258,000, and letters of credit, amounting to \$803,000, as of December 31, 1998, furnished by its subsidiaries' respective former parent organizations in accordance with the agreement among ManTech, GP Strategies, GPC, SGLG, Vattenfall and the Company dated April 13, 1994 (the "Formation Agreement") and letters of credit amounting to \$803,000, as of December 31, 1998. Letters of credit are issued by the Company in the ordinary course of business through commercial banks as required by certain contracts and proposal requirements.

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Year 2000

General. The Company is aware of general industry concerns regarding the Year 2000 problem. The Year 2000 problem concerns the inability of information systems to properly recognize and process date-sensitive information beyond January 1, 2000. The Company has established a compliance program intended to bring its software and systems into Year 2000 compliance in time to minimize any significant detrimental effects on operations. This program covers Company's own products and installed base, significant vendors and customers, and financial and administrative systems. The Company's program recognizes that date-sensitive systems may fail at different points in time depending on their function. Systems having forward-looking planning and production functions may fail earlier and require corrective actions sooner to allow for reasonable testing. Other applications may fail only during the transition to Year 2000. The Company plans to utilize internal personnel, contractors and vendors to identify Year 2000 noncompliance problems, modify code and test the modifications. In some cases, non-compliant software and hardware will be replaced.

Current Product Offerings. The Company believes that it has identified substantially all potential Year 2000 problems with the current versions of the software products it develops and markets. However, management also believes that it is not possible to determine with complete certainty that all Year 2000 problems affecting the Company's software products have been identified or corrected due to complexity of these products and the fact that these products interact with other third party vendor products and integrate on computer systems which are not under the Company's control. The Company's program includes the testing and, if necessary, the modification of new versions of its products to ensure Year 2000 readiness.

Previous Versions and Installed Base. Older versions of the Company's software will require modification to work properly through and after the Year 2000. The Company offers Year 2000 evaluation services to its customers having older systems to determine the scope of work required to correct any problems. The Company's program also includes the development of patches for certain previous versions of the Company's products, which may be purchased by customers. However, there can be no assurance that such patches would correct all Year 2000 problems in such previous versions, and there can be no assurance that evaluation services and patches will be purchased and implemented by the Company's customers.

Suppliers. The Company has initiated communications with third party suppliers of the major computer system components, software, and other equipment used, operated, or maintained by the Company to identify and, to the extent possible, to resolve issues involving the Year 2000 problem. However, the Company has limited or no control over the actions of these third party suppliers. Thus, while the Company expects that it will be able to resolve any significant Year 2000 problems with these systems, there can be no assurance that these suppliers will resolve any or all Year 2000 problems with these systems before the occurrence of a material disruption to the business of the Company or any of its customers.

GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998

Financial and Administrative Systems. The Company also relies on various administrative and financial applications (e.g., order processing and collection systems) that require correction to properly handle Year 2000 dates. In the event one of these systems is not adequately corrected, the Company's ability to capture, schedule and fulfill customer demands could be impaired. Likewise, if a collection processing system were to fail, the Company may not be able to properly apply payments to customer balances or correctly determine cash balances. The Company plans to update its primary accounting system in the spring of 1999 and centrally controlled administrative applications are being assessed and tested. Various non-centrally controlled systems are also utilized by the Company's businesses. The impact of a failure of these systems would be limited to the business using the affected system, and then only to the extent that manual or other alternate processes were not able to meet processing requirements. Such an occurrence is not expected to have a significant adverse impact on the Company.

Significant Customers. The Company is also dependent upon its customers for sales and cash flow. Year 2000 interruptions in the Company's customers' operations could result in reduced sales, increased inventory or receivable levels and cash flow reductions. While these events are possible, the Company anticipates that its customer base is broad enough to minimize the effects of such interruptions. The Company plans, however, to monitor the status of the Company's customers as a means of determining risks and alternatives.

Costs. The Company estimates that the aggregate costs to address the Year 2000 issue will not exceed approximately \$1.9 million in 1999. The Company believes that most of the customer related costs associated with the Year 2000 issue would have occurred as part of its normal operations. The Company does not track these costs separately, and prior to 1999, the Company did not separately budget for costs related to the Year 2000 issue. Of the amount to be expended in 1999, the Company believes that approximately \$225,000, primarily related to upgrades to internal systems, is incremental to normal operating costs. While the Company believes its efforts will provide reasonable assurance that material disruptions to its internal systems and installed products will not occur, the potential for interruption still exists. The Company's policy is to expense as incurred information system maintenance costs and to capitalize the cost of new software and hardware and amortize or depreciate it over the assets' useful lives. There can be no assurance that the cost estimates associated with the Company's Year 2000 issues will prove to be accurate or that the actual costs will not have a material adverse effect on the Company's business, results of operations or financial condition.

Contingency Plans. The Company is currently developing contingency plans to be implemented as part of its efforts to identify and correct Year 2000 problems affecting its internal systems and installed products. Depending on the systems affected, these plans could include accelerated replacement of affected equipment or software, short to medium-term use of backup equipment and software, increased work hours for Company personnel or use of contract personnel to correct on an accelerated schedule any Year 2000 problems that arise or to provide manual workarounds for information systems, and similar approaches. If the Company is required to implement any of these contingency plans, it could have a material adverse effect on the Company's financial condition and results of operations.

THE ABOVE DISCUSSION OF THE COMPANY'S EFFORTS, AND MANAGEMENT'S EXPECTATIONS, RELATING TO YEAR 2000 COMPLIANCE ARE FORWARD-LOOKING STATEMENTS. THE COMPANY'S ABILITY TO ACHIEVE YEAR 2000 COMPLIANCE AND THE LEVEL OF INCREMENTAL COSTS ASSOCIATED THEREWITH, COULD BE ADVERSELY IMPACTED BY, AMONG OTHER THINGS, THE AVAILABILITY AND COST OF PROGRAMMING AND TESTING RESOURCES, SUPPLIERS' ABILITY TO BRING THEIR SYSTEMS INTO YEAR 2000 COMPLIANCE, AND UNANTICIPATED PROBLEMS IDENTIFIED IN THE COMPANY'S ONGOING COMPLIANCE REVIEW.

GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998

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 manages its foreign currency exposure primarily by entering into foreign currency exchange agreements and purchasing foreign currency options.

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.

Not applicable.

GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

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REPORT OF INDEPENDENT ACCOUNTANTS

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

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity and cash flows present fairly, in all material respects, the financial position of GSE Systems, Inc. and its subsidiaries as of December 31, 1998 and 1997, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

PricewaterhouseCoopers LLP

McLean, Virginia
February 24, 1999

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements
GSE SYSTEMS, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

ASSETS

	December 31,	
	1998	1997
	-----	-----
Current assets:		
Cash and cash equivalents	\$ 2,240	\$ 334
Contract receivables	24,426	24,371
Note receivable	1,000	-
Inventories	2,892	2,700
Prepaid expenses and other current assets	1,654	1,739
Deferred income taxes	150	2,570
	-----	-----
Total current assets	32,362	31,714
Property and equipment, net	2,714	3,864
Software development costs, net	4,715	7,526
Goodwill, net	2,781	2,974
Deferred income taxes	3,366	1,730
Other assets	2,805	554
	-----	-----
Total assets	\$ 48,743	\$ 48,362
	=====	=====

LIABILITIES AND STOCKHOLDERS' EQUITY

Current liabilities:		
Lines of credit	\$ 6,746	\$ 9,032
Accounts payable	8,407	7,919
Accrued expenses	4,344	4,304
Obligations under capital lease	143	208
Billings in excess of revenue earned	6,359	6,719
Accrued contract and warranty reserves	846	912
Other current liabilities	1,308	661
Income taxes payable	151	313
	-----	-----
Total current liabilities	28,304	30,068
Notes payable to related parties	148	185
Obligations under capital lease	10	234
Accrued contract and warranty reserves	596	675
Other liabilities	2,596	1,276
	-----	-----
Total liabilities	31,654	32,438
	-----	-----
Stockholders' equity:		
Common stock \$.01 par value, 8,000,000 shares authorized, 5,065,688 shares issued and outstanding	50	50
Additional paid-in capital	21,678	21,378
Retained earnings (deficit) - at formation	(5,112)	(5,112)
Retained earnings (deficit) - since formation	1,158	(239)
Accumulated other comprehensive income (loss)	(685)	(153)
	-----	-----
Total stockholders' equity	17,089	15,924
	-----	-----
Total liabilities & stockholders' equity	\$ 48,743	\$ 48,362
	=====	=====

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,		
	1998	1997	1996
Contract revenue	\$ 73,818	\$ 79,711	\$ 96,033
Cost of revenue	49,814	58,326	63,679
	24,004	21,385	32,354
Operating expenses			
Selling, general and administrative	20,345	27,320	24,192
Depreciation and amortization	1,768	2,368	2,111
Business combination costs	-	-	1,206
Employee severance and termination costs	-	1,124	-
	22,113	30,812	27,509
Operating income (loss)	1,891	(9,427)	4,845
Gain on sale of assets	550	-	-
Interest expense	(350)	(765)	(387)
Other income (expense)	326	(1,228)	394
	2,417	(11,420)	4,852
Income (loss) before income taxes	2,417	(11,420)	4,852
Provision for (benefit from) income taxes	1,020	(2,717)	709
	1,397	(8,703)	4,143
Net income (loss)	\$ 1,397	\$ (8,703)	\$ 4,143
	\$0.28	\$(1.72)	\$0.82
Basic earnings (loss) per common share	\$0.28	\$(1.72)	\$0.82
	\$0.27	\$(1.72)	\$0.82
Diluted earnings (loss) per common share	\$0.27	\$(1.72)	\$0.82

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,		
	1998	1997	1996
Net income (loss)	\$ 1,397	\$ (8,703)	\$ 4,143
Other comprehensive income (loss)			
Foreign currency translation adjustment	(532)	(66)	(341)
Pension liability adjustment	-	-	102
	-----	-----	-----
Comprehensive income (loss)	\$ 865	\$ (8,769)	\$ 3,904
	=====	=====	=====

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		Additional Paid-in Capital	Retained Earnings (Deficit)		Accumulated Other Comprehensive Income (Loss)	Total
	Shares	Amount		At Formation	Since Formation		
Balance, January 1, 1996	5,066	\$ 50	\$ 21,121	\$ (5,112)	\$ 4,321	\$ 152	\$ 20,532
Compensation expense	-	-	257	-	-	-	257
Foreign currency translation adjustment	-	-	-	-	-	(341)	(341)
Pension liability adjustment	-	-	-	-	-	102	102
Net income	-	-	-	-	4,143	-	4,143
Balance, December 31, 1996	5,066	50	21,378	(5,112)	8,464	(87)	24,693
Foreign currency translation	-	-	-	-	-	(66)	(66)
Net (loss)	-	-	-	-	(8,703)	-	(8,703)
Balance, December 31, 1997	5,066	50	21,378	(5,112)	(239)	(153)	15,924
Foreign currency translation adjustment	-	-	-	-	-	(532)	(532)
Issuance of warrants	-	-	300	-	-	-	300
Net income	-	-	-	-	1,397	-	1,397
Balance, December 31, 1998	5,066	\$ 50	\$ 21,678	\$ (5,112)	\$ 1,158	\$ (685)	\$ 17,089

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

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

	Years ended December 31,		
	1998	1997	1996
Cash flows from operating activities:			
Net income (loss)	\$ 1,397	\$ (8,703)	\$ 4,143
Adjustments to reconcile net income (loss) to net cash (used in) operating activities:			
Depreciation and amortization	3,492	3,492	2,747
Accrued facility costs	-	852	(1,451)
Provision (credit) for doubtful contract receivables	(255)	723	-
Foreign currency transaction (gain) loss	(326)	1,275	-
Fair value of warrants issued to non-employees	180	-	-
Non-cash stock compensation	-	-	257
Deferred income taxes	301	(2,277)	71
Gain on sale of assets	(550)	-	-
Changes in assets and liabilities			
Contract receivables	(2,344)	1,464	2,103
Inventories	(185)	727	(1,245)
Prepaid expenses and other current assets	178	836	355
Other assets	(1,558)	(17)	(181)
Accounts payable and accrued expenses	(2,600)	(2,152)	1,399
Accrued severance	-	148	-
Billings in excess of revenue earned	83	644	(6,933)
Accrued contract and warranty reserves	102	(710)	(1,927)
Other current liabilities	1,655	200	(780)
Income taxes payable	(114)	(315)	(520)
Other liabilities	514	(2)	41
Net cash used in operating activities	(30)	(3,815)	(1,921)
Proceeds from sale of assets	8,955	(578)	-
Capital expenditures	(2,061)	(918)	(2,834)
Capitalization of software development costs	(2,304)	(3,474)	(3,890)
Proceeds from sale/leaseback transaction	-	521	-
Net cash provided by (used in) investing activities	4,590	(4,449)	(6,724)
Cash flows from financing activities:			
(Decrease) increase in lines of credit with banks	(2,287)	6,450	2,369
(Repayments) borrowings under capital lease obligations	(265)	(266)	(37)
Net repayment of amounts due from stockholders	-	-	(204)
Decrease in notes payable to related parties	(12)	(17)	-
Net cash provided by (used in) financing activities	(2,564)	6,167	2,128
Effect of exchange rate changes on cash	(90)	(19)	(49)
Net increase (decrease) in cash and cash equivalents	1,906	(2,116)	(6,566)
Cash and cash equivalents at beginning of period	334	2,450	9,016
Cash and cash equivalents at end of period	\$ 2,240	\$ 334	\$ 2,450

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

GSE SYSTEMS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

DECEMBER 31, 1998

1. Business

GSE Systems, Inc. ("GSE Systems" or the "Company") designs, develops and delivers business and technology solutions by applying high-technology-related process control, high fidelity simulation, systems and services into applications for worldwide industries including energy and process manufacturing. The Company's solutions and services assist customers in improving quality, safety and throughput; reducing operating expenses; and enhancing overall productivity. The Company was formed on April 13, 1994 through the consolidation of operations of GSE Power Systems, Inc. ("Power Systems" and formerly "Simulation, Systems & Services Technologies Company" and its immediate parent MSHI, Inc.), GP International Engineering & Simulation, Inc. ("GPI") and GSE Power Systems AB ("Power Systems AB" and formerly "EuroSim AB"). In December 1994 and in the second quarter of 1995, the Company expanded into the process control and data acquisition business through the acquisition of the net assets of the process control systems division of Texas Instruments Incorporated ("TI"), which now operates as GSE Process Solutions, Inc. ("Process Solutions").

The Company's operations are subject to certain risks and uncertainties, including, among other things, rapidly changing technology, risks associated with doing business internationally and reliance on key technical and executive personnel.

As discussed in Note 10, the Company's credit facilities expire on June 30, 1999. The Company has received a commitment letter from a financial institution to obtain a new credit facility with a maturity date of March 31, 2000, which the Company expects to finalize by April 30, 1999. The terms and conditions of the new facility, which would provide for a \$6 million line of credit for Power Systems and a \$3 million line of credit for Process Solutions, are substantially the same as the new facility, including the requirement for the EXIM guarantee and the additional guarantees described in Note 10.

Although the Company intends to replace its expiring credit facilities, there can be no assurance that such financing will be completed. In the event that the Company is unsuccessful in extending or obtaining new lines of credit, GP Strategies Corporation ("GP Strategies") and ManTech International Corporation ("ManTech") each have agreed to provide working capital support of up to \$1.8 million (\$3.6 million in the aggregate) to the Company.

2. Summary of significant accounting policies

Principles of consolidation

The accompanying consolidated financial statements include the results of operations of the Company and its wholly-owned subsidiaries: Power Systems, GPI, Power Systems AB, and Process Solutions. The results of operations of GSE Erudite Software, Inc. ("Erudite Software") are included through April 30, 1998. All inter-company balances and transactions have been eliminated.

Accounting estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and 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.

Cash and cash equivalents

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

GSE SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 1998

Inventories

Inventories are stated at the lower of cost, as determined by the average cost method, or market. Obsolete or unsaleable inventory is reflected at its estimated net realizable value. Inventory costs include raw materials and purchased parts.

A summary of inventories is as follows (in thousands):

	December 31,	
	1998	1997
Raw materials	\$ 1,873	\$ 1,610
Service parts	1,019	1,090
Total inventories	\$ 2,892	\$ 2,700

Property and equipment

Property and equipment are 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 is 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 at the greater of the amount computed using (a) the ratio of current gross revenues for a product to the total of current and anticipated future gross revenue or (b) the straight-line method over the remaining estimated economic life of the product, not to exceed five years.

Research and development

Development expenditures incurred to meet customer specifications under contracts accounted for under the percentage of completion method are charged to contract costs. Company sponsored research and development expenditures are charged to operations as incurred and are included in selling, general and administrative expenses. The amounts incurred for Company sponsored research and development activities relating to the development of new products and services or the improvement of existing products and services, exclusive of amounts capitalized, were approximately \$2,051,000, \$1,580,000, and \$1,861,000 for the years ended December 31, 1998, 1997 and 1996, respectively.

Goodwill

Goodwill represents the excess of purchase price over the fair value of net tangible and intangible assets acquired. These amounts are amortized on a straight-line basis over periods ranging from seven to fifteen years.

GSE SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 1998

Asset impairments

The Company periodically evaluates the recoverability of its long-lived assets. This evaluation consists of a comparison of the carrying value of the assets with the assets' expected future cash flows, undiscounted and without interest costs. Estimates of expected future cash flows represent management's best estimate based on reasonable and supportable assumptions and projections. If the expected future cash flow, undiscounted and without interest charges, exceeds the carrying value of the asset, no impairment is recognized. Impairment losses are measured as the difference between the carrying value of long-lived assets and their fair value. No such impairment losses were incurred in 1998, 1997 or 1996.

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 income

(loss) in stockholders' equity. Transaction gains and losses, resulting from changes in exchange rates, are included in operations in the period in which they occur. For the year ended December 31, 1998, the foreign currency transaction gain, which is included in other income (expense), was approximately \$326,000. In 1997, the Company experienced a foreign currency loss of approximately \$1,275,000, which was primarily the result of intercompany transactions were been negatively impacted by the poor financial condition of Asian markets. Foreign currency transaction gains and losses were not material in 1996.

Revenue recognition

Revenue under fixed-price contracts generally is accounted for on the percentage-of-completion method, based on contract costs incurred to date and estimated costs to complete. Estimated contract earnings are reviewed and revised periodically as the work progresses and the cumulative effect of any change is recognized in the period in which the change is determined. Estimated losses are charged against earnings in the period such losses are identified. The remaining liability for contract costs to be incurred in excess of contract revenue is reflected as accrued contract reserves in the Company's consolidated balance sheets. Revenue 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.

Warranties

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.

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 basis 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. Income tax expense consists of 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.

Earnings per share

Basic earnings per share is computed based on the weighted average number of outstanding common shares for the period. Diluted earnings per share adjusts such weighted average for the potential dilution that could occur if stock options, warrants or other convertible securities were exercised or converted into common stock. Diluted earnings per share is the same as basic earnings per share for the year ended December 31, 1997 because the effects of such items were anti-dilutive.

GSE SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 1998

The number of common shares and common share equivalents used in the determination of basic and diluted earnings (loss) per share was as follows:

	Year ended December 31,		
	1998	1997	1996
Weighted average shares outstanding - Basic	5,065,688	5,065,688	5,065,688
Weighted average shares outstanding - Diluted	5,107,428	5,065,688	5,073,700

The difference between the amounts in 1998 and 1996 represents dilutive options and/or warrants to purchase shares of common stock computed under the treasury stock method, using the average market price during the related periods.

Segment reporting

In 1998, the Company adopted Statement of Financial Accounting Standards 131, "Disclosures about Segments of an Enterprise and Related Information." FAS 131 supersedes FAS 14, "Financial Reporting for Segments of a Business Enterprise," replacing the "industry segment approach" with the "management approach." The management approach designates the internal organization that is used by management for making operating decisions and assessing performance as the source of the Company's reportable segments. FAS 131 also requires disclosures about products and services, geographic areas and major customers. The adoption of FAS 13 did not affect results of operations or financial position, but did affect the disclosure of segment information.

Comprehensive income

Statement of Financial Accounting Standards 130, "Reporting Comprehensive Income" was adopted effective for the year ended December 31, 1998. FAS 130 requires additional reporting with respect to certain changes in assets and liabilities that previously were reported in stockholder's equity. The 1997 and 1996 financial statements have been reclassified for comparative purposes as required by FAS 130.

New Accounting Standards

In June 1998 the Financial Accounting Standards Board issued Statement of Financial Accounting Standards 133, "Accounting for Derivative Instruments and Hedging Activities." This statement requires that an entity recognize all derivatives as either assets or liabilities in the statement of financial position and measure those instruments at fair value. The Company will be required to adopt this new accounting standard by January 1, 2000. Management does not anticipate early adoption. The Company does not believe that the effect of the adoption of FAS 133 will be material.

Concentration of credit risk

Financial instruments that potentially subject the Company to concentration of credit risk consist primarily of 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 and manufacturing industries. No single customer accounted for a significant (greater than 10%) amount of the Company's revenue during the years ended December 31, 1998, 1997 and 1996 and there were no significant contract receivables from a single customer at December 31, 1998. The Company typically performs a credit evaluation before extending credit and may require letters of credit, bank guarantees or advance payments. Thereafter, the Company continues to monitor its contract receivables exposure after giving effect to letters of credit, bank guarantees, the status of work performed on contracts, and its customers' financial condition.

GSE SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 1998

Off balance sheet risk and foreign exchange contracts

When necessary, the Company enters into forward exchange contracts, options and swaps as hedges against certain foreign currency commitments. The Company also enters into letters of credit and performance guarantees in the ordinary course of business as required by certain contracts and proposal requirements. The Company does not hold any derivative financial instruments for trading purposes.

Gains and losses on foreign exchange contracts and swaps are recognized as part of the cost of the underlying transactions being hedged in the period in which the exchange rates changed. Foreign exchange contracts have an element of risk that the counterparty may not be able to meet the terms of the agreement. However, the Company minimizes such risk exposure by limiting counterparties to nationally recognized financial institutions. Foreign exchange options contracts permit but do not require the Company to exchange foreign currencies at a future date with counterparties at a contracted exchange rate. Costs associated with such contracts are amortized over the life of the contract matching the underlying receipts.

3. Acquisitions and dispositions

Acquisitions

On December 1, 1997, the Company acquired 100% of the outstanding common stock of J.L. Ryan, Inc. ("Ryan") for an initial purchase price of \$1,000,000 and contingent consideration based on the performance of the business from 1998 to 2002; a minimum of \$250,000 of such earnings payments for each of 1998 and 1999 has been guaranteed by the Company. The Company paid \$600,000 in cash upon the closing of the transaction and entered into a promissory note payable in four annual installments of \$100,000 each beginning on January 2, 1999. This acquisition was accounted for under the purchase method. The financial results of Ryan have been included in the results of operations from the date of acquisition. The acquisition resulted in total goodwill of \$1,133,976, which is being amortized over seven years. For 1998, the contingent consideration in addition to the minimum guaranteed amount was approximately \$172,000, which the Company has recorded as an addition to goodwill.

On May 22, 1996, the Company acquired all of the outstanding shares of capital stock of Erudite Software. The acquisition was accomplished through a merger of Erudite Software into a wholly owned subsidiary of the Company in which 840,688 shares of the Company's Common Stock were exchanged for all outstanding shares of capital stock of Erudite Software. The acquisition was accounted for using the pooling-of-interests method of accounting and accordingly, the Company's consolidated financial statements were restated to include the accounts and operations of Erudite Software for all periods prior to the merger.

Dispositions

On November 10, 1998, the Company completed the sale of certain assets related to activities of its Oil & Gas business unit ("O&G"), to Valmet Automation (USA), Inc. ("Valmet"), pursuant to an Asset Purchase Agreement, effective as of October 30, 1998, by and between the Company, and Valmet. The Company has recognized a loss before income taxes on this transaction, in the quarter ended September 30, 1998, of \$5.0 million, including the write-off of approximately \$2.9 million in capitalized software development costs, since all operations that would support the recoverability of these capitalized costs have been sold. The Company received approximately \$742,000 in cash, subject to certain adjustments, and Valmet assumed certain identified liabilities. Valmet purchased assets with a book value of approximately \$3.0 million. The agreement stipulates that, subject to the occurrence of certain events, the Company is entitled to royalties over a five-year period relative to certain software of the Company which was licensed to Valmet. Such royalties would not exceed \$1 million in the aggregate and would be recorded as earned. The Company is liable for any cost overruns on certain development and project contracts, beyond estimates stipulated in the Asset Purchase Agreement, such liabilities not to exceed \$800,000. In addition to the \$800,000 liability for overruns, the Company remains responsible for certain liabilities not assumed by Valmet. The Company has accrued \$400,000 and included such amount in the loss recognized on this transaction, based on a present estimate of exposure relative to these liabilities. Included in operations for 1998 are revenues of \$1.1 million and operating losses of \$721,000 attributable to the Oil & Gas business unit prior to the sale to Valmet.

GSE SYSTEMS, INC. AND SUBSIDIARIES
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On May 1, 1998, the Company completed the sale of substantially all of the assets of Erudite Software, to Keane, Inc. ("Keane"), pursuant to an Asset Purchase Agreement, dated as of April 30, 1998, by and among the Company, Erudite Software and Keane. The aggregate purchase price for the Erudite assets was approximately \$9.9 million (consisting of \$8.9 million in cash and \$1.0 million in the form of an unsecured promissory note due on April 30, 1999, subject to certain adjustments described in the next paragraph). In connection with the transaction, Keane purchased certain assets with a book value of \$4.4 million and assumed certain operating liabilities totaling approximately \$2.2 million. The Company recognized a gain before income taxes on this transaction, of \$5.6 million. In connection with the sale of these assets, the Company has written off approximately \$800,000 in capitalized software development costs, as well as \$321,000 of purchased software, since all operations that would support the recoverability of these costs have been sold. The write-off of these costs is reflected in the calculation of the gain on the sale. Included in operations for 1998 are revenues of \$5.3 million and operating losses of \$64,000 attributable to Erudite Software prior to the sale to Keane.

4. Fair values of financial instruments

The carrying amounts of cash and cash equivalents and short-term debt approximate fair value because of the short-term maturity of these instruments. The carrying amount of long-term debt approximates fair value based on either market prices for the same or similar issues or the current rates offered to the Company for similar debt of the same maturities.

5. 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. The components of contract receivables are as follows (in thousands):

	December 31,	
	1998	1997
Billed receivables	\$ 16,469	\$ 16,994
Recoverable costs and accrued profit - not billed	8,839	8,398
Allowance for doubtful accounts	(882)	(1,021)
	\$ 24,426	\$ 24,371
	=====	=====

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.

Revisions in estimated contract costs at completion are reflected in the period during which facts and circumstances necessitating such a change first become known. The effect of changes in estimates of contract profits was to decrease gross profit by approximately \$45,000 during the year ended December 31, 1998, decrease gross profit by approximately \$410,000 during the year ended December 31, 1997, and to increase gross profit by approximately \$1,900,000 during the year ended December 31, 1996.

6. Property and equipment

Property and equipment consists of the following (in thousands):

	December 31,	
	1998	1997
Computer equipment	\$ 6,399	\$ 7,771
Leasehold improvements	1,085	1,889
Furniture and fixtures	2,134	1,652
	9,618	11,312
Accumulated depreciation and amortization	(6,904)	(7,448)
	\$ 2,714	\$ 3,864
	=====	=====

Depreciation and amortization expense was \$1,218,000, \$2,149,000 and \$1,943,000 for the years ended December 31, 1998, 1997 and 1996

respectively.

The Company has \$404,000 and \$962,000 in assets held under capital lease as of December 31, 1998 and 1997, respectively. Accumulated amortization on these assets was \$142,000 and \$384,000 as of December 31, 1998 and 1997, respectively.

7. Software development costs

Software development costs, net, consist of the following (in thousands):

	December 31,	
	1998	1997
Capitalized software development costs	\$ 7,407	\$ 9,028
Accumulated amortization	(2,692)	(1,502)
Software development costs, net	\$ 4,715	\$ 7,526

Software development costs capitalized were \$2,304,000, \$3,474,000 and \$3,890,000 for the years ended December 31, 1998, 1997 and 1996, respectively. Amortization of software development costs capitalized, excluding write-offs in connection with asset dispositions, was \$1,900,000, \$1,124,000 and \$635,000 for the years ended December 31, 1998, 1997 and 1996, respectively, and are included in cost of revenue.

8. Goodwill

Goodwill consists of the following (in thousands):

	December 31,	
	1998	1997
Goodwill, at cost	\$ 3,731	\$ 3,559
Accumulated amortization	(950)	(585)
Goodwill, net	\$ 2,781	\$ 2,974

Amortization expense for goodwill was approximately \$365,000, \$219,000 and \$168,000 for the years ended December 31, 1998, 1997 and 1996, respectively.

GSE SYSTEMS, INC. AND SUBSIDIARIES
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9. Accrued expenses

Accrued expenses consist of the following (in thousands):

	December 31,	
	1998	1997
Accrued vacation, severance and other benefits	\$ 872	\$ 1,771
Accrued compensation and payroll taxes	1,204	1,260
Accrued reserves, dispositions	926	-
Other accrued expenses	1,342	1,273
Total	\$ 4,344	\$ 4,304
	=====	=====

10. Notes payable and financing arrangements

Notes payable and financing arrangements consist of the following (in thousands):

	December 31,	
	1998	1997
Lines of credit with bank	\$ 6,746	\$ 9,032
Notes payable to related parties	174	185
Notes payable, other	1,760	-
Obligations under sales-type lease	1,680	-
Capital lease obligations	153	442
Total notes payable and financing arrangements	10,513	9,659
Less amounts payable within one year	(8,530)	(9,240)
Long-term portion	\$ 1,983	\$ 419

Lines of Credit

The Company maintains, through its subsidiaries, two lines of credit that have been extended through June 30, 1999, based on modification agreements dated January 1, 1999. These lines of credit, which are cross-collateralized, provide for borrowings up to a total of \$8.0 million to support foreign letters of credit, margin requirements or foreign exchange contracts and working capital needs. The first line, for \$7.0 million, used by Power, is 90% guaranteed by the Export-Import Bank of the United States ("EXIM"), is collateralized by substantially all of Power's assets, and provides for borrowings up to 90% of eligible receivables and 50% of unbilled receivables. The extension of this line is conditional based upon the Company's obtaining an extension on the EXIM guarantee through at least June 30, 1999. The Company has received preliminary approval from EXIM to extend the EXIM guarantee, which currently expires April 30, 1999, through March 31, 2000. Under the terms of the preliminary approval, the Power line will be reduced to \$6 million, when the approval becomes final. The second line, for \$1.0 million, used by Process, is collateralized by substantially all of Process' assets, and provides for borrowing up to 85% of eligible receivables. Both lines are guaranteed by the Company and collateralized by substantially all of the Company's assets.

GSE SYSTEMS, INC. AND SUBSIDIARIES
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The lines require the Company to comply with certain financial ratios and preclude the Company from paying dividends and making acquisitions beyond certain limits without the bank's consent. In connection with the extension obtained as of January 1, 1999, certain of these covenants were modified, retroactive to December 31, 1998. The Company was in compliance with all modified covenants at December 31, 1998 and expects to maintain compliance with the covenants.

The Company has received a commitment letter from a financial institution for a new credit facility with a maturity date of March 31, 2000, which the Company expects to finalize by April 30, 1999. The terms and conditions of the new facility, which would provide for a \$6 million Power Systems line and a \$3 million Process Solutions line, are substantially the same as the existing facility, including the requirement for the EXIM guarantee and the guarantees described below.

In connection with the aforementioned existing lines of credit and the new facility, the Company has arranged for certain guaranties to be provided on its behalf to the bank by GP Strategies and ManTech. In consideration for the above-mentioned guaranties, the Company has granted each of ManTech and GP Strategies warrants to purchase shares of the Company's common stock; each of such warrants provides the right to purchase at least 150,000 shares of the Company's common stock at \$2.375 per share. The Company has recognized \$300,000 as the estimated fair value of such warrants in the consolidated financial statements. During 1998, the Company recognized \$180,000 of expense related to these warrants. The Company will expense the remainder of the fair value over the term of the guarantees. The fair value of the warrants was determined using the Black - Scholes valuation model. Assumptions used in the calculation were as follows: dividend yield of 0%, expected volatility of 61%, risk-free interest rates of 5.6% and expected terms of 2.5 years.

Although the Company intends to replace its expiring credit facilities, as described above, there can be no assurance that such financing will be completed. In the event that the Company is unsuccessful in extending or obtaining new lines of credit, GP Strategies and ManTech each have agreed to provide working capital support of up to \$1.8 million (\$3.6 million in the aggregate) to the Company.

Obligations under sales-type lease

In December 1998, the Company entered into a contract with a customer for the lease of certain hardware and software under a 36-month lease. The Company has accounted for this lease as a sales-type lease. The current position of the net investment in sales-type lease is in prepaid expenses and other current assets, while the non-current portion is included in other assets. The components of the net investment in sales-type lease are as follows (in thousands):

Minimum rentals receivable	\$ 1,994
less: unearned interest income	(314)

Net investment in sales-type lease	\$ 1,680
	=====

Minimum rental receivable under this lease at December 31, 1998 are as follows (in thousands):

1999	\$ 720
2000	640
2001	634

Total	\$ 1,994
	=====

The \$1,680,000 obligation related to this lease is included in other current liabilities and other liabilities.

GSE SYSTEMS, INC. AND SUBSIDIARIES
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Notes payable, other

Notes payable, other includes notes related to acquisitions and insurance, which are included in other current liabilities and other liabilities.

Other debt

The Company entered into capital lease agreements for furniture and equipment, totaling \$58,000, \$102,000, and \$313,000 during the years ended December 31, 1998, 1997 and 1996, respectively. These obligations bear interest at between 9% and 11% per annum and expire between 1998 and 2000.

Debt maturities

Aggregate maturities of debt as of December 31, 1998 are as follows:

1999	\$ 8,530
2000	1,110
2001	700
2002	30
Thereafter	40

Total	\$ 10,513
	=====

11. Income taxes

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

	Years ended December 31,		
	1998	1997	1996
Domestic	\$ 1,379	\$ (8,850)	\$ 3,884
Foreign	1,038	(2,570)	968
	-----	-----	-----
Total	\$ 2,417	\$ (11,420)	\$ 4,852
	=====	=====	=====

The provision for (benefit from) income taxes is as follows (in thousands):

	Years ended December 31,		
	1998	1997	1996
Current:			
Federal	\$ -	\$ (27)	\$ (23)
State	157	-	29
Foreign	257	(413)	642
	-----	-----	-----
	\$ 414	\$ (440)	\$ 648
	-----	-----	-----
Deferred:			
Federal	556	(2,388)	186
State	-	(229)	23
Foreign	50	340	(148)
	-----	-----	-----
	606	(2,277)	61
	-----	-----	-----
	\$ 1,020	\$ (2,717)	\$ 709
	=====	=====	=====

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

	Years ended December 31,		
	1998	1997	1996
Statutory U.S. tax rate	34.0 %	(34.0)%	34.0 %
State income tax, net of federal tax benefit	2.7	(2.7)	2.7
Effect of foreign operations	(2.2)	3.8	(6.6)
Change in valuation allowance	(0.8)	7.8	(19.5)
Non-deductible amortization expense related to warrants	2.7	-	-
Others	5.8	1.3	4.0
Effective tax rate	42.2 %	(23.8)%	14.6 %

GSE SYSTEMS, INC. AND SUBSIDIARIES
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At December 31, 1998, the Company had available \$11,854,000 of foreign and domestic net operating loss carryforwards which expire between 2007 and 2017. In addition, the Company had \$338,000 of foreign tax credit carryforwards which expire between 2000 and 2001. These carryforwards will be utilized to reduce taxable income in subsequent years. A portion of the net operating losses were generated by certain of the Predecessors prior to the formation of the Company and, as a result, there are limitations on the amounts that can be utilized to offset taxable income in a given year.

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

	December 31,	
	1998	1997
	Deferred tax	
	Asset (Liability)	
	-----	-----
Contract loss reserves	\$ 48	\$ 46
Property and equipment	340	135
Accrued expenses	164	207
Net operating loss carryforwards	4,945	7,152
Book reserves not deductible for tax purposes	876	458
Book income deducted for tax purposes	(645)	-
Software development costs	(1,731)	(2,762)
Cash to accrual adjustment	(58)	(71)
Foreign tax credits	338	338
Others	297	(125)
	-----	-----
	4,574	5,378
Valuation allowance	(1,058)	(1,078)
	-----	-----
Total	\$ 3,516	\$ 4,300
	=====	=====

GSE SYSTEMS, INC. AND SUBSIDIARIES
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The Company accounts for grants under the Plan in accordance with APB 25, "Accounting for Stock Issued to Employees," and related interpretations. Had compensation expense been determined based on the fair value at the grant dates for awards under the Plan consistent with the method of SFAS 123, "Accounting for Stock Based Compensation," the Company's net income (loss) and basic and diluted net income (loss) per share would have been reduced (increased) to approximately \$ 900,000 (\$0.18 per share), \$(10,276,000) (\$(2.03) per share), and \$3,601,000 (\$0. 71 per share) for the years ended December 31, 1998, 1997 and 1996, respectively.

The fair value of each option is estimated on the date of grant using a Black-Scholes option-pricing model with the following weighted-average assumptions used for grants during the years ended December 31, 1998, 1997 and 1996, respectively: dividend yield of 0%, expected volatility of 61% for 1998 and 80% for 1997 and 1996, and risk-free interest rates of 6.51%, 6.31%, and 6.15%, and expected terms of 6 years.

As of December 31, 1998, 1997 and 1996, respectively, there were 215,080, 86,442, and 119,000 stock options exercisable under the Plan, and the Company had 89,294 shares of common stock reserved for the future grants under the Plan. The weighted average fair value of options granted during 1998, 1997 and 1996 was \$2.79 per share, \$3.00 per share and \$9.55 per share, respectively. As of December 31, 1998, the weighted average remaining contractual life of the options outstanding was approximately 7 years.

In 1998, the Company granted stock options to two directors to acquire 50,000 shares of Common stock in the aggregate at an exercise price of \$2.25. Each such director has agreed that he would not exercise his option with respect to more than 12,500 shares until such time as stockholder approval is obtained.

In 1997, the Company granted one of its senior executives a stock option to acquire 25,000 shares of Common Stock at an exercise price of \$11.25. This grant was not made pursuant to the Plan. This option expires ten years from the date of grant and becomes exercisable in the three installments with 40% vesting on the first anniversary of the date of grant and 30% vesting on each of the second and third anniversaries of the date of grant.

In 1996, in exchange for services, the Company granted stock options to two consultants to acquire 10,000 shares of Common Stock in the aggregate at an exercise price of \$14.00. These grants were not made pursuant to the Plan. These options expire on December 31, 2000 and became exercisable in two installments with 50% vesting as of January 1, 1997 and the remaining 50% vesting as of January 1, 1998.

14. 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, 1998 are approximately as follows (in thousands):

1999	\$ 1,993
2000	1,851
2001	1,608
2002	1,230
2003	1,196
Thereafter	5,845

Total	\$ 13,723
	=====

GSE SYSTEMS, INC. AND SUBSIDIARIES
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The future minimum lease payments above include \$1,142,000 for noncancellable leases entered during the first quarter of 1999. Total rent expense under operating leases was \$2,134,000, \$3,220,000, and \$1,876,000 for the years ended December 31, 1998, 1997 and 1996.

During 1998, the Company entered into agreements whereby the lease for its existing Columbia facility was terminated and the operations that occupied such facility were relocated into two separate facilities. One of these facilities is in Columbia, Maryland (approximately 53,000 square feet) and is occupied by the operations of Power Systems, as well the Company's corporate headquarters offices and support functions. The other facility is in Baltimore, Maryland (approximately 33,000 square feet) and is occupied by the operations of Process Solutions. During the first quarter of 1999, the Company has leased an additional 6,000 square feet in the Baltimore facility. Each of the leases for these smaller facilities has a term of ten (10) years.

Letters of credit

As of December 31, 1998, the Company and certain of its subsidiaries were contingently liable under letters of credit totaling \$803,000. Further, the performance of certain of the Company's customer contracts is collateralized by performance guarantees totaling \$258,000 by its subsidiaries' respective former parent organizations. During 1998, the Company placed approximately \$332,000 in escrow as a performance bond deposit in connection with a simulator contract in Taiwan. Of this amount, approximately \$221,000 will be held in escrow until April 30, 2000 and approximately \$111,000 will be held in escrow until April 30, 2003. In connection with that same contract, the Company placed approximately \$180,000 in a letter of credit for payment bond, which will be held in escrow until April 30, 2000.

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.

15. Related party transactions

In 1997, a subsidiary of the Company entered into certain agreements regarding the formation of a joint venture with a company organized in the People's Republic of China. In connection with the initial capitalization of this joint venture, each of ManTech and GP Strategies made advances of \$126,000 on behalf of the Company. During 1998, ManTech assumed control of the joint venture. The operations of this joint venture were immaterial during the years ended December 31, 1998 and 1997.

During 1997, ManTech entered into arrangements for the consulting services of a member of the Company's finance staff. Payments to the Company for such services were \$92,000 for the year ended December 31, 1997.

A subsidiary of the Company subleased office space to ManTech based on square footage used through May of 1998. For the years ended December 31, 1998, 1997 and 1996, such charges amounted to \$30,000, \$117,000 and \$67,000, respectively.

16. Employee benefits

The Company has a qualified defined contribution plan that covers substantially all 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 \$468,000, \$524,000, and \$671,000 for the years ended December 31, 1998, 1997 and 1996, respectively.

GSE SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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During 1997, the Company recorded a net charge for severance and other employee obligations of \$1.1 million in connection with cost reduction efforts initiated to offset the impact of a decrease in contract revenues. Of this charge, \$976,000 was expended as of December 31, 1997, with the remainder being expended in 1998.

17. Segment Information

In 1998, GSE adopted FAS 131. The prior years' segment information has been restated to present GSE's two reportable segments, Process and Power, its core business units.

The accounting policies of the segments are the same as those described in the "Summary of Significant Accounting Policies". The Company is primarily organized on the basis of these two business units. GSE Systems has a wide range of knowledge of control and simulation systems and the processes those systems are intended to improve, control and model. The Company's knowledge is concentrated heavily in the process industries, which include the chemicals, food & beverage, and pharmaceuticals fields, as well as in the power generation industry. The Process Business Unit is primarily engaged in process control and simulation in a variety of commercial industries. Contracts typically range from three to nine months. The Power Business Unit is primarily engaged in simulation to the power generation industry, with the vast majority of customers being in the nuclear power industry. Contracts typically range from 18 months to three years or longer.

GSE evaluates the performance of its business units utilizing "Business Unit Contribution", which is substantially equivalent to earnings before interest and taxes (EBIT) before allocating any corporate expenses to the business units.

The segment information regarding the two divested businesses is included in "All Other" (See Note 3).

The table below presents information about reported segments:

	(in thousands)		
	Years ended December 31,		
	----- 1998 -----		
	Process	Power	Total
Contract revenue	\$ 36,484	\$ 30,930	\$ 67,414
	=====	=====	=====
Business unit contribution	\$ 3,444	\$ 4,535	\$ 7,979
	=====	=====	=====
	----- 1997 -----		
	Process	Power	Total
Contract revenue	\$ 34,837	\$ 24,552	\$ 59,389
	=====	=====	=====
Business unit contribution	\$ 3,480	\$ 718	\$ 4,198
	=====	=====	=====
	----- 1996 -----		
	Process	Power	Total
Contract revenue	\$ 32,145	\$ 42,558	\$ 74,703
	=====	=====	=====
Business unit contribution	\$ 3,353	\$ 9,218	\$ 12,571
	=====	=====	=====

GSE SYSTEMS, INC. AND SUBSIDIARIES
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DECEMBER 31, 1998

A reconciliation of segment contract revenue to consolidated contract revenue and segment business unit contribution to consolidated income before taxes for the years ended December 31, 1998, 1997 and 1996 is as follows:

	(in thousands)		
	Years ended December 31,		
	1998	1997	1996
Total segment sales	\$ 67,414	\$ 59,389	\$ 74,703
All other	6,404	20,322	21,330
Consolidated contract revenue	\$ 73,818	\$ 79,711	\$ 96,033
Segment business unit contribution	\$ 7,979	\$ 4,198	\$ 12,571
All other business unit contribution	(491)	(4,848)	(1,781)
Corporate expenses	(5,271)	(8,881)	(5,551)
Severance cost	-	(1,124)	-
Gain on sales of assets	550	-	-
Interest expense	(350)	(765)	(387)
Consolidated income (loss) before taxes	\$ 2,417	\$ (11,420)	\$ 4,852

The Company designs, develops and delivers business and technology solutions to the energy, process and manufacturing industries worldwide. Revenue, operating income and identifiable assets for the Company's United States, European and Asian operations are as follows (in thousands):

	Year Ended December 31, 1998				
	United States	Europe	Asia	Eliminations	Consolidated
Revenue	\$ 62,689	\$ 8,241	\$ 2,888	\$ -	\$ 73,818
Transfers between geographic locations	\$ 1,761	\$ 423	\$ -	\$ (2,184)	\$ -
Total revenue	\$ 64,450	\$ 8,664	\$ 2,888	\$ (2,184)	\$ 73,818
Gain or (Loss) from operations	\$ 1,571	\$ 592	\$ (272)	\$ -	\$ 1,891
Identifiable assets	\$ 50,904	\$ 5,836	\$ 953	\$ (8,950)	\$ 48,743

	Year Ended December 31, 1997				
	United States	Europe	Asia	Eliminations	Consolidated
Revenue	\$ 70,580	\$ 5,907	\$ 3,224	\$ -	\$ 79,711
Transfers between geographic locations	\$ 1,582	\$ -	\$ 1,314	\$ (2,896)	\$ -
Total revenue	\$ 72,162	\$ 5,907	\$ 4,538	\$ (2,896)	\$ 79,711
Gain or (Loss) from operations	\$ (6,930)	\$ (324)	\$ (2,173)	\$ -	\$ (9,427)
Identifiable assets	\$ 50,296	\$ 3,686	\$ 2,111	\$ (7,731)	\$ 48,362

	Year Ended December 31, 1996				
	United States	Europe	Asia	Eliminations	Consolidated
Revenue	\$ 83,263	\$ 9,026	\$ 3,744	\$ -	\$ 96,033
Transfers between geographic locations	\$ 659	\$ -	\$ 622	\$ (1,281)	\$ -
Total revenue	\$ 83,922	\$ 9,026	\$ 4,366	\$ (1,281)	\$ 96,033

Gain or (Loss) from operations	\$ 3,832	\$ 1,267	\$ (452)	\$ 198	\$ 4,845
	=====	=====	=====	=====	=====
Identifiable assets	\$ 54,584	\$ 6,416	\$ 3,057	\$ (13,051)	\$ 51,006
	=====	=====	=====	=====	=====

GSE SYSTEMS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 1998

Domestic and export sales from the Company's United States operation in thousands of dollars and as a percentage of revenue as follows:

	Year Ended December 31,					
	1998		1997		1996	
Domestic	\$ 38,860	62.0%	\$ 50,783	72.0%	\$ 47,868	57.5%
Export:						
Germany	661	1.1%	2,791	4.0%	9,236	11.1%
Remaining Western Europe	1,642	2.6%	1,748	2.5%	2,806	3.4%
Russia	4,749	7.6%	6,074	8.6%	7,716	9.3%
Remaining Easter Europe	12,222	19.5%	6,481	9.2%	11,070	13.3%
Asia	2,828	3.6%	1,278	1.8%	3,910	4.7%
South America and others	2,273	3.6%	1,425	2.0%	657	0.8%
	\$ 62,689	100.0%	\$ 70,580	100.0%	\$ 83,263	100.0%
	=====	=====	=====	=====	=====	=====

18. Supplemental disclosure of cash flow information (in thousands):

	Year Ended December 31,		
	1998	1997	1996
Non cash investing & financing activities:			
Obligations under capital leases	\$ 58	\$ 102	\$ 313
	=====	=====	=====
Execution of investment in sales-type leases	\$1,680	\$ -	\$ -
	=====	=====	=====
Notes payable to related party for investment in joint venture	\$ -	\$ 252	\$ -
	=====	=====	=====
Asset acquisitions financed with debt to seller:			
Cash paid	\$ 130	\$ 600	\$ -
Note payable issued	250	900	-
	-----	-----	-----
Total purchase price	\$ 380	\$1,500	\$ -
	=====	=====	=====
Cash Paid:			
Interest	\$ 350	\$ 741	\$ 228
	=====	=====	=====
Income taxes	\$ 426	\$ 233	\$ 285
	=====	=====	=====

**GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998**

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.
None.

**GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998**

PART III

The information required in response to Items 10, 11, 12 and 13 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", and "Certain Related Transactions" in the Proxy Statement for the Company's 1999 Annual Meeting of Stockholders.

GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K.

(a)(1) List of Financial Statements

The following financial statements are included in Item 8:

GSE Systems, Inc. and Subsidiaries

Report of Independent Accountants

Consolidated Balance Sheets as of December 31, 1998 and 1997

Consolidated Statements of Operations for the years ended December 31, 1998, 1997 and 1996

Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 1998, 1997 and 1996

Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 1998 and 1997 and 1996

Consolidated Statements of Cash Flows for the years ended December 31, 1998, 1997 and 1996

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.

(b) Reports on Form 8-K:

1. On April 17, 1998, the Company filed a Report on Form 8-K dated April 14, 1998 with respect to a press release of the Company announcing the signing a letter of intent for the sale of the Company's Erudite Software business to Keane, Inc. The Form 8-K included as an exhibit the text of such press release.
2. On September 24, 1998, the Company filed a Report on Form 8-K dated September 21, 1998 with respect to a press release of the Company announcing the signing a letter of intent for the sale of the Company's Oil & Gas Business Unit to Valmet Automation (USA), Inc. The Form 8-K included as an exhibit the text of such press release.
3. On October 30, 1998, the Company filed a Report on Form 8-K dated October 22, 1998 with respect to a press release of the Company announcing the signing a letter of intent for a proposed transaction involving BatchCAD Limited. The Form 8-K included as an exhibit the text of such press release.
4. On November 30, 1998, the Company filed a Report on Form 8-K dated November 10, 1998 providing disclosure pertaining to the Company's completion of the divestiture of certain assets of its Oil & Gas Business Unit to Valmet Automation (USA), Inc. This Form 8-K included as exhibits the texts of the Asset Purchase Agreement and the License Agreement for such transaction.

GSE SYSTEMS, INC.
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For the Year Ended December 31, 1998

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/ CHRISTOPHER M. CARNAVOS

Christopher M. Carnavos
Director and President

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.

<i>Signatures</i> -----	<i>Title</i> -----	<i>Date</i> -----
/S/ JEROME I. FELDMAN ----- Jerome I. Feldman	Chairman of the Board	March 30, 1999
/S/ CHRISTOPHER M. CARNAVOS ----- Christopher M. Carnavos	Director and President (Principal Executive Officer)	March 30, 1999
/S/ JEFFERY G. HOUGH ----- Jeffery G. Hough	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	March 30, 1999
/S/ SHELDON L. GLASHOW ----- Sheldon L. Glashow	Director	March 30, 1999
/S/ JOHN A. MOORE, JR. ----- John A. Moore, Jr.	Director	March 30, 1999

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/S/ GEORGE J. PEDERSEN

George J. Pedersen

Director

March 30, 1999

/S/ SYLVAN SCHEFLER

Sylvan Schefler

Director

March 30, 1999

GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998

EXHIBIT INDEX

The following exhibits are either filed herewith or have been filed with the Securities and Exchange Commission and are referred to and incorporated by reference.

Exhibit Number -----	Note ----	Description -----
2.1	(7)	Asset Purchase Agreement among GSE Systems, Inc., GSE Erudite Software, Inc. and Keane, Inc. dated as of April 30, 1998.
2.2	(8)	Asset Purchase Agreement among GSE Systems, Inc., GSE Process Solutions, Inc., GSE Process Solution B.V., GSE Process Solutions Belgium N.V., GSE Process Solutions Singapore (Pte) Limited and Valmet Automation (USA) Inc. dated as of November 10, 1998.
2.3	(8)	Software License Agreement among GSE Process Solutions, Inc., The Sage Systems Division of Valmet Automation (USA) Inc. and The Sage Systems Division of Valmet Automation (Canada) Ltd. dated as of November 10, 1998.
3.1	(1)	Second Amended and Restated Certificate of Incorporation of the Company.
3.2	(2)	Form of Amended and Restated Bylaws of the Company.
4.1	(3)	Specimen Common Stock Certificate of the Company.
10.1	(1)	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).
10.2	(9)	* GSE Systems, Inc. 1995 Long-Term Incentive Plan, as amended as of November 20, 1998.
10.3	(4)	* Form of Option Agreement Under the GSE Systems, Inc. 1995 Long-Term Incentive Plan.
10.4	(2)	Letter of Credit, Loan and Security Agreement between CoreStates Bank, N.A. and GSE Process Solutions, Inc. (dated as of January 31, 1995).
10.5	(4)	Amended and Restated Letter of Credit, Loan and Security Agreement between CoreStates Bank, N.A. and GSE Process Solutions, Inc. (dated as of October 13, 1995 and as amended as of February 23, 1996).
10.6	(4)	Letter of Credit, Loan and Security Agreement among CoreStates Bank, N.A., MSHI, Inc., and Simulation, Systems & Services Technologies Company (dated as of January 30, 1996).
10.7	(1)	Amended and Restated Lease Agreement between CCP Development Limited Partnership No. 7 and Simulation, Systems & Services Technologies Company (dated as of January 27, 1993)
10.8	(6)	* Letter Agreement dated January 8, 1997 between GSE Systems, Inc. and Christopher M. Carnavos
10.9	(6)	Amendment Number Two to Amended and Restated Letter of Credit, Loan and Security Agreement between CoreStates Bank, N.A. and GSE Process Solutions, Inc. (dated as of November 11, 1997)
10.11	(6)	Indemnification Agreement between Genus Corporation and GSE Power Systems, Inc. (dated as of February 2, 1998)
10.12	(6)	Office Lease Agreement between Sterling Rutherford Plaza, L.L.C. and GSE Systems, Inc. (dated as of February 10, 1998)
10.13	(6)	Lease Agreement between Red Branch Road, L.L.C. and GSE

Systems, Inc. (dated February 10, 1998)

- 10.14 (6) Letter Agreement dated March 6, 1998 between CoreStates Bank, N.A. and GSE Power Systems, Inc.
- 10.15 (6) Letter Agreement dated March 6, 1998 between CoreStates Bank, N.A. and GSE Process Solutions, Inc.
- 10.16 (7) Termination of Employment Agreement among GSE Systems, Inc., GSE Erudite Software, Inc. and Eugene D. Loveridge, dated as of April 30, 1998

GSE SYSTEMS, INC.
FORM 10-K

For the Year Ended December 31, 1998

10.17	(7)	Termination of Employment Agreement among GSE Systems, Inc., GSE Erudite Software, Inc. and Daniel Masterson, dated as of April 30, 1998
10.18	(9)	Modification Agreement by and among GSE Power Systems, Inc., MSHI, Inc., GSE Process Solutions, Inc., GSE Systems, Inc., GP International Engineering & Simulation, Inc., GP Strategies Corporation, ManTech International Corporation, GSE Process Solutions B.V., GSE Process Solutions Singapore (Pte) Limited, GSE Process Solutions Belgium N.V., and First Union National Bank dated as of January 1, 1999.
10.19	(9)	Unconditional Guaranty by GSE Systems, Inc. in favor of First Union National Bank dated as of January 1, 1999.
10.20	(9)	Unconditional Guaranty by GP Strategies Corporation in favor of First Union National Bank dated as of January 1, 1999.
10.21	(9)	Unconditional Guaranty by ManTech International Corporation in favor of First Union National Bank dated as of January 1, 1999.
21.1	(9)	Subsidiaries fo Registrant
23.1	(9)	Consent of Independent Accountants
24.1	(9)	Power of Attorney for Dirctors' and Officers' Signatures on SEC Form 10-K
99.1	(3)	Form of Right of First Refusal Agreement

(1) 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.

(2) 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.

(3) 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.

(4) 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.

(5) Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 31, 1997 and incorporated herein by reference.

(6) Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securites and Exchange Commission on March 31, 1998 and incorporated herein by reference.

(7) Previously filed in connection with the GSE Systems, Inc. Form 10-Q as filed with the Securites and Exchange Commission on May 15, 1998 and incorporated herein by reference.

(8) Previously filed in connection with the GSE Systems, Inc. Form 8-K as filed with the Securites and Exchange Commission on November 30, 1998 and incorporated herein by reference.

(9) Filed herewith.

* Management contract or compensatory plan.

EXHIBIT 10.2

GSE SYSTEMS, INC. 1995 LONG-TERM INCENTIVE PLAN (As Amended through November 20, 1998)

1 Definitions

In this Plan, except where the context otherwise indicates, the following definitions apply:

- 1.1. "Agreement" means a written agreement implementing an Award.
- 1.2. "Award" means a grant of an Option or Right or an award of Restricted Stock or Incentive Shares.
- 1.3. "Board" means the Board of Directors of the Corporation.
- 1.4. "Code" means the Internal Revenue Code of 1986, as amended.
- 1.5. "Committee" means the committee or subcommittee of the Board meeting the standards of Rule 16b-3(d)(1) under the Exchange Act and Treasury Regulations § 1.162-27(e)(3), or any similar successor rule or regulation, as may be appointed by the Board to administer the Plan. Unless otherwise determined by the Board, the Compensation Committee of the Board shall be the Committee.
- 1.6. "Common Stock" means the common stock, par value \$.01 per share, of the Corporation.
- 1.7. "Corporation" means GSE Systems, Inc.
- 1.8. "Date of Exercise" means the date on which the Corporation receives notice of the exercise of an Option or Right in accordance with the terms of Article 9.
- 1.9. "Date of Grant" means the date on which an Option or Right is granted or Restricted Stock or Incentive Shares are awarded under the Plan.
- 1.10. "Director" means a member of the Board of the Corporation or any Subsidiary.
- 1.11. "Employee" means any employee of the Corporation or a Subsidiary, including an Employee Director or any person who has been hired to be an employee of the Corporation or a Subsidiary, and any consultant or advisor to the Corporation who is not a Director and who renders bona fide services to the Corporation or a Subsidiary other than services in connection with the offer or sale of securities in a capital raising transaction.
- 1.12. "Employee Director" means a Director who is also an Employee.
- 1.13. "Exchange Act" means the Securities Exchange Act of 1934, as amended.
- 1.14. "Fair Market Value" means the amount equal to the closing sales price for a Share, on the date such fair market value is to be determined (or if there is no sale of Shares on such date, the closing sales price on the nearest trading date preceding such date), in the principal trading market for the Shares as reported by such source as the Committee may select, or, if such price quotations of the Common Stock are not then reported, then the fair market value of a Share as determined by the Committee pursuant to a reasonable method adopted in good faith for such purpose.
- 1.15. "Grantee" means an Employee to whom Restricted Stock has been awarded pursuant to Article 10 or Incentive Shares have been awarded pursuant to Article 11.
- 1.16. "Incentive Shares" means Shares awarded under the Plan pursuant to the provisions of Article 11.
- 1.17. "Incentive Stock Option" means an Option granted under the Plan that qualifies as an incentive stock option under section 422 of the Code and that the Corporation designates as such in the Agreement granting the Option.
- 1.18. "Independent Director" mean a "Director who is not an Employee Director."
- 1.19. "Independent Director Program" means that portion of the Plan under which grants are made to Independent Directors.
- 1.20. "Nonstatutory Stock Option" means an Option granted under the Plan that is not an Incentive Stock Option.

1.21. "Option" means an option to purchase Shares granted under the Plan in accordance with the terms of Article 6 or Article 7.

1.22. "Option Period" means the period during which an Option may be exercised.

1.23. "Option Price" means the price per Share at which an Option may be exercised. The Option Price shall be determined by the Committee and shall not be less than the Fair Market Value determined as of the Date of Grant, except that in the case of Nonstatutory Stock Options granted on or prior to the thirtieth day after consummation of the Corporation's initial public offering of Common Stock (the "IPO"), the Option Price shall not be less than the initial public offering price of a Share in connection with the IPO. Notwithstanding the foregoing, in the case of an Incentive Stock Option granted to an Optionee who (applying the rules of Section 424(d) of the Code) owns stock possessing more than ten percent of the total combined voting power of all classes of stock of the Corporation or a Subsidiary (a "Ten-Percent Stockholder"), the Option Price shall not be less than one hundred and ten percent (110%) of the Fair Market Value on the Date of Grant.

1.24. "Optionee" means an Employee or Director to whom an Option or Right has been granted.

1.25. "Performance Goals" means performance goals established by the Committee which may be based on earnings or earnings growth, sales, return on assets, equity or investment, regulatory compliance, satisfactory internal or external audits, improvement of financial ratings, achievement of balance sheet or income statement objectives, or any other objective goals established by the Committee, and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. Such performance standards may be particular to an employee or the department, branch, Subsidiary or other division in which he or she works, or may be based on the performance of the Corporation generally, and may cover such period as may be specified by the Committee.

1.26. "Plan" means the GSE Systems, Inc. 1995 Long Term Incentive Plan.

1.27. "Related Option" means the Option in connection with which, or by amendment to which, a specified Right is granted.

1.28. "Related Right" means the Right granted in connection with, or by amendment to, a specified Option.

1.29. "Restricted Stock" means Shares awarded under the Plan pursuant to the provisions of Article 10.

1.30. "Right" means a stock appreciation right granted under the Plan in accordance with the terms of

Article 8.

1.31. "Right Period" means the period during which a Right may be exercised.

1.32. "Rule 16b-3" means Rule 16b-3 under Section 16 of the Exchange Act (or any successor rule).

1.33. "Share" means a share of Common Stock.

1.34. "Subsidiary" means a corporation at least 50% of the total combined voting power of all classes of stock of which is owned by the Corporation, either directly or through one or more other Subsidiaries.

2 Purpose

The Plan is intended to assist the Corporation and its Subsidiaries in attracting and retaining Employees and Independent Directors of outstanding ability and to promote the identification of their interests with those of the stockholders of the Corporation.

3 Administration

The Committee shall administer the Plan and shall have plenary authority, in its discretion, to award Options, Rights, Restricted Stock and Incentive Shares to Employees and Independent Directors, subject to the provisions of the Plan. The Committee shall have plenary authority and discretion, subject to the provisions of the Plan, to determine the terms of all Awards (which terms need not be identical) to Employees, including, but not limited to, the exercise price of Options, the time or times at which Awards are made, the number of Shares covered by Awards, whether an Option shall be an Incentive Stock Option or a Nonstatutory Stock Option, and the period during which Options and Rights may be exercised and Restricted Stock shall be subject to restrictions. In making these determinations, the Committee may take into account the nature of the services rendered by the Award recipients, their present and potential contributions to the success of the Corporation and its Subsidiaries, and such other factors as the Committee in its discretion shall deem relevant. Subject to the provisions of the Plan, the Committee shall have plenary authority to interpret the Plan, to prescribe, amend and rescind rules and regulations relating to it and to make all other determinations deemed necessary or advisable for the administration of the Plan. The determinations of the Committee on the matters referred to in this Article 73 shall be binding and final.

4 Eligibility

Options, Rights, Restricted Stock and Incentive Shares may be granted or awarded only to Employees, provided, however, that Independent Directors may receive Nonstatutory Stock Options in accordance with the provisions of Article 7.

5 Stock Subject to the Plan

5.1. The maximum number of Shares that may be issued under the Plan is 625,000 Shares. The maximum number of Shares with respect to which an Employee may receive Awards under the Plan is 100,000.

5.2. If an Option or Right expires or terminates for any reason (other than termination by virtue of the exercise of a Related Option or Related Right, as the case may be) without having been fully exercised, if Shares of Restricted Stock are forfeited or if Incentive Shares are not issued or are forfeited, the unissued or forfeited Shares which had been subject to the Award shall become available for the grant of additional Awards.

5.3. Upon exercise of a Right (regardless of whether the Right is settled in cash or Shares), the number of Shares with respect to which the Right is exercised shall be charged against the number of Shares issuable under the Plan and shall not become available for the grant of other Awards.

6 Options

6.1. Options granted under the Plan to Employees shall be either Incentive Stock Options or Nonstatutory Stock Options, as designated by the Committee. Each Option granted under the Plan shall be clearly identified either as a Nonstatutory Stock Option or an Incentive Stock Option and shall be evidenced by an Agreement that specifies the terms and conditions of the grant. Options granted to Employees shall be subject to the terms and conditions set forth in this Article 6 and such other terms and conditions not inconsistent with this Plan as the Committee may specify. All Incentive Stock Options granted under the Plan shall comply with the provisions of the Code governing incentive stock options and with all other applicable rules and regulations.

6.2. The Option Period for Options granted to Employees shall be determined by the Committee and specifically set forth in the Agreement, provided, however, that an Option shall not be exercisable after ten years (five years in the case of an Incentive Stock Option granted to a Ten-Percent Stockholder) from its Date of Grant.

6.3. The Committee, in its discretion, may provide in an Agreement for the right of the Optionee to surrender to the Corporation an Option (or a portion thereof) that has become exercisable and to receive upon such surrender, without any payment to the Corporation (other than required tax withholding amounts) that number of Shares (equal to the highest whole number of Shares) having an aggregate fair market value as of the date of surrender equal to that number of Shares subject to the Option (or portion thereof) being surrendered multiplied by an amount equal to the excess of (i) the Fair Market Value on the date of surrender over (ii) the Option Price, plus an amount of cash equal to the fair market value of any fractional Share to which the Optionee would be entitled but for the parenthetical above relating to whole number of Shares. Any such surrender shall be treated as the exercise of the Option (or portion thereof).

7 Independent Director Program

7.1. The Independent Director Program shall be a formula plan under which Independent Directors shall be granted Nonstatutory Stock Options, but only in accordance with the provisions set forth in this Article 7.

7.2. Nonstatutory Stock Options shall be granted to Independent Directors as follows:

(i) Each person who becomes an Independent Director shall be granted on the date such person first becomes an Independent Director, which shall be the Date of Grant, a Nonstatutory Stock Option to purchase 1,500 Shares at an Option Price equal to the Fair Market Value on the Date of Grant; and

No.(ii) On December 31st of each year, each Independent Director shall be granted a Nonstatutory Stock Option to purchase 1,500 Shares at an Option Price equal to the Fair Market Value on such date, which date shall be the Date of Grant; provided that if any Independent Director has served as a Director for less than a full year as of such Date of Grant, the Nonstatutory Stock Option granted to such Director on such Date of Grant shall be for the number of Shares (rounded to the nearest whole Share) equal to 1,500 multiplied by a fraction, the numerator of which shall be the number of days such person has served as a Director and the denominator of which shall be 365.

7.3. Nonstatutory Stock Options granted under this Article 7 shall vest in three installments on the first, second and third annual anniversaries of the Date of Grant with 40% thereof vesting on the first such anniversary and 30% thereof vesting on each of the second and third such anniversaries, and may be exercised by the Optionee at any time after vesting and prior to the termination of the Nonstatutory Stock Option. Nonstatutory Stock Options granted pursuant to this Article 7 shall terminate upon the earlier to occur of (i) 7 years from the Date of Grant or (ii) 90 days from the date on which such Optionee ceases to be a member of the Board or, if such Optionee ceases to be a member of the Board by reason of retirement, disability, death or removal from such position without cause, five years from the date on which such Optionee ceases to be a member of the Board. Nonstatutory Stock Options granted under this Article 7 are not transferable except to the extent provided in Article 12. Exercise of Nonstatutory Stock Options granted under this Article 7 may be made only in writing delivered to the Corporation accompanied by payment of the Option Price in cash or Shares in accordance with Section 9.1.

7.4. If on any Date of Grant of Nonstatutory Stock Options to Independent Directors there is an insufficient number of Shares available for such grants to Independent Directors, the number of Shares subject to each grant shall be reduced to the greatest whole number of Shares arrived at by dividing the remaining Shares available for such grants by the number of Independent Directors eligible for such grants.

7.5. Notwithstanding the provisions of Section 7.3, an Option granted pursuant to this Article 7 may be exercised in full upon a Change of Control. For purposes of this Section 7.5, a "Change of Control" shall be deemed to have occurred if after the Date of Grant for such Option (i) any person or group of persons (as defined in Section 13(d) and 14(d) of the Exchange Act) together with its affiliates, excluding employee benefit plans of the Corporation, becomes, directly or indirectly, the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act) of securities of the Corporation representing 20% or more of the combined voting power of the Corporation's then outstanding securities; or (ii) as a result of a tender offer or exchange offer for the purchase of securities of the Corporation (other than such an offer by the Corporation for its own securities), or as a result of a proxy contest, merger, consolidation or sale of assets, or as a result of any combination of the foregoing, individuals who at the beginning of any two-year period constitute the Board, plus new directors of the Corporation whose election or nomination for election by the Corporation's stockholders is approved by a vote of at least two-thirds of the Directors still in office who were Directors at the beginning of such two-year period, cease for any reason during such two-year period to constitute at least two-thirds of the members of the Board; or (iii) the stockholders of the Corporation approve a merger or consolidation of the Corporation with any other corporation or entity regardless of which entity is the survivor, other than a merger or consolidation which would result in the voting securities of the Corporation outstanding immediately prior thereto continuing to represent (either by remaining outstanding or being converted into voting securities of the surviving entity) at least 66 2/3% of the combined voting power of the voting securities of the Corporation or such surviving entity outstanding immediately after such merger or consolidation; or (iv) the stockholders of the Corporation approve a plan of complete liquidation or winding-up of the Corporation or an agreement for the sale or disposition by the Corporation of all or substantially all of the Corporation's assets.

8 Rights

8.1. Rights granted under the Plan shall be evidenced by an Agreement specifying the terms and conditions of the grant. A Right may be granted under the Plan:

(i) in connection with, and at the same time as, the grant of an Option under the Plan;

(ii) by amendment of an outstanding Option granted under the Plan; or

(iii) independently of any Option granted under the Plan.

A Right granted under clause (i) or (ii) of the preceding sentence is a Related Right. A Related Right may, in the Committee's discretion, apply to all or a portion of the Shares subject to the Related Option.

8.2. A Right may be exercised in whole or in part as provided in the applicable Agreement, and, subject to the terms of the Agreement, entitles its Optionee to receive, without payment to the Corporation (but subject to required tax withholding), either cash or that number of Shares (equal to the highest whole number of Shares), or a combination thereof, in an amount or having a fair market value determined as of the Date of Exercise not to exceed the number of Shares subject to the portion of the Right exercised multiplied by an amount equal to the excess of (i) the Fair Market Value on the Date of Exercise of the Right over (ii) either (A) the Fair Market Value on the Date of Grant of the Right if it is not a Related Right, or (B) the Option Price as provided in the Related Option if the Right is a Related Right.

8.3. The Right Period shall be determined by the Committee and specifically set forth in the Agreement, subject to the following conditions:

(i) a Right will expire no later than the earlier of (A) ten years from the Date of Grant, or (B) in the case of a Related Right, the expiration of the related Option;

(ii) a Right may be exercised only when the Fair Market Value on the Date of Exercise exceeds either (A) the Fair Market Value on the Date of Grant of the Right if it is not a Related Right or (B) the Option Price of the Related Option if the Right is a Related Right; and

(iii) a Right that is a Related Right to an Incentive Stock Option may be exercised only when and to the extent the Related Option is exercisable.

8.4. The exercise, in whole or in part, of a Related Right shall cause a reduction in the number of Shares subject to the Related Option equal to the number of Shares with respect to which the Related Right is exercised. Similarly, the exercise, in whole or in part, of a Related Option shall cause a reduction in the number of Shares subject to the Related Right equal to the number of Shares with respect to which the Related Option is exercised.

8.5. The extent provided in the Agreement, the Committee shall have sole discretion to consent to or disapprove the election of any Optionee to receive cash in full or partial settlement of a Right. In cases where an election of settlement in cash must be consented to by the Committee, the Committee may consent to, or disapprove, such election at any time after such election, or within such period for taking action as is specified in the election, and failure to give consent shall be disapproval. Consent may be given in whole or as to a portion of the Right surrendered by the Optionee. If the election to receive cash is disapproved in whole or in part, the Right shall be deemed to have been exercised for Shares, or, if so specified in the notice of exercise and election, not to have been exercised to the extent the election to receive cash is disapproved. 9
Exercise of Options and Rights

9.1. An Option or Right may, subject to the terms of the applicable Agreement under which it was granted, be exercised in whole or in part by the delivery to the Corporation of written notice of the exercise, in such form as the Committee may prescribe, accompanied, in the case of an Option, by full payment for the Shares with respect to which the Option is exercised. To the extent provided in the applicable Option Agreement, payment may be made, in whole or in part, in Shares (other than Restricted Stock) valued at Fair Market Value on the Date of Exercise or by delivery of a promissory note as provided in Section 9.2 hereof.

9.2. To the extent provided in an Option Agreement and permitted by applicable law, the Committee may accept as partial payment of the Option Price a promissory note executed by the Optionee evidencing his or her obligation to make future cash payment thereof; provided, however, that in no event may the Committee accept a promissory note for an amount in excess of the difference between the aggregate Option Price and the par value of the Shares. Promissory notes made pursuant to this Section 9.2 shall be payable upon such terms as may be determined by the Committee, shall be secured by a pledge of the Shares received upon exercise of the Option and shall bear interest at a rate fixed by the Committee.

10 Restricted Stock Awards

10.1. Restricted Stock awards under the Plan shall consist of Shares that are restricted against transfer, subject to forfeiture, and subject to such other terms and conditions intended to further the purposes of the Plan as may be determined by the Committee. Such terms and conditions may provide, in the discretion of the Committee, for the vesting of such awards to be contingent upon the achievement of one or more specified Performance Goals.

10.2. Restricted Stock awards under the Plan shall be evidenced by Agreements specifying the terms and conditions of the Award. Each Agreement evidencing an award of Restricted Stock shall contain the following:

(i) prohibitions against the sale, assignment, transfer, exchange, pledge, hypothecation, or other encumbrance of (A) the Shares awarded as Restricted Stock under the Plan, (B) the right to vote the Shares, and (C) the right to receive dividends thereon, in each case during the restriction period applicable to the Shares; provided, however, that the Grantee shall have all the other rights of a stockholder including, but not limited to, the right to receive dividends and the right to vote the Shares;

(ii) a requirement that each certificate representing Shares of Restricted Stock shall be deposited with the Corporation, or its designee, and shall bear the following legend:

"This certificate and the shares of stock represented hereby are subject to the terms and conditions (including the risks of forfeiture and restrictions against transfer) contained in the GSE Systems, Inc. 1995 Long-Term Incentive Plan, and an Agreement entered into between the registered owner and GSE Systems, Inc. Release from such terms and conditions shall be made only in accordance with the provisions of the Plan and the Agreement, a copy of each of which is on file in the office of the Secretary of GSE Systems, Inc."

(iii) the terms and conditions upon which any restrictions applicable to Shares of Restricted Stock shall lapse and new certificates free of the foregoing legend shall be issued to the Grantee or his or her legal representative; and

(iv) such other terms, conditions and restrictions as the Committee in its discretion may specify including, without limitation, terms that condition the lapse of forfeiture and transfer restrictions upon the achievement of Performance Goals.

10.3. The Committee may include in a Restricted Stock Agreement a requirement that in the event of a Grantee's termination of employment for any reason prior to the lapse of restrictions, all Shares of Restricted Stock shall be forfeited by the Grantee to the Corporation without payment of any consideration by the Corporation, and neither the Grantee nor any successors, heirs, assigns or personal representatives of the Grantee shall thereafter have any further rights or interest in the Shares or certificates.

11 Incentive Shares Awarded

11.1. Incentive Shares awarded under the Plan shall be evidenced by an Agreement specifying the terms and conditions of such Award. Incentive Share awards shall provide for the issuance of Shares to a Grantee at such times and subject to such terms and conditions as the Committee shall deem appropriate including, but not limited to, terms that condition the issuance of Shares upon the achievement of Performance Goals.

12 Nontransferability

Awards made under this Plan shall not be transferable other than (i) by will or the laws of descent and distribution, or (ii) pursuant to a qualified domestic relations order as defined in section 414(p) of the Code. An Option or Right may be exercised during the Optionee's lifetime only by the Optionee or, in the event of his or her legal disability, by his or her legal representative. A Related Right is transferable only when the Related Option is transferable and only with the Related Option and under the same conditions that apply to the Related Option.

13 Capital Adjustments

In the event of any change in the outstanding Common Stock by reason of any stock dividend, split-up, recapitalization, reclassification, combination or exchange of shares, merger, consolidation or liquidation and the like, the Committee may, in its discretion, provide for a substitution for or adjustment in (i) the number and class of Shares subject to outstanding Options, Rights, Restricted Stock and Incentive Share awards, (ii) the Option Price of Options and the base price upon which payments under Rights that are not Related Rights are determined, and (iii) the aggregate number and class of Shares for which Awards thereafter may be made under the Plan and to individual Award recipients. The adjustments made with respect to Nonstatutory Stock Options granted pursuant to Article 7 shall be equivalent to the treatment accorded to holders of Common Stock.

14 Termination or Amendment

The Board may amend, alter or terminate the Plan in any respect at any time; provided, however, that, after the Plan has been approved by the stockholders of the Corporation, no amendment, alteration or termination of the Plan shall be made by the Board without approval of (i) the Corporation's stockholders to the extent stockholder approval of the amendment is required by applicable law or regulations or the requirements of the principal exchange or interdealer quotation system on which the Common Stock is listed or quoted, and (ii) each affected Optionee or Grantee if such amendment, alteration or termination would adversely affect his or her rights or obligations under any Award made prior to the date of such amendment, alteration or termination.

15 Modification, Extension and Renewal of Options, Rights, Restricted Stock and Intentive Shares; Substituted Options and Rights

15.1. Subject to the terms and conditions of the Plan, the Committee may modify, extend or renew outstanding Options and Rights, or accept the surrender of outstanding options and stock appreciation rights (to the extent not theretofore exercised) granted under the Plan or under any other plan of the Corporation or a Subsidiary, and authorize the granting of new Options and Rights pursuant to the Plan in substitution therefor (to the extent not theretofore exercised), and the substituted Options or Rights may specify a lower exercise price than the surrendered options and stock appreciation rights, a longer term than the surrendered options and stock appreciation rights, or have any other provisions that are authorized by the Plan. Subject to the terms and conditions of the Plan, the Committee may modify the terms of any outstanding awards of Restricted Stock or Incentive Shares. Notwithstanding the foregoing, however, no modification of an Award shall, without the consent of the Optionee or Grantee, alter or impair any of the Optionee's or Grantee's rights or obligations under such Award.

15.2. Anything contained herein to the contrary notwithstanding, Options and Rights may, at the discretion of the Committee, be granted under the Plan in substitution for stock appreciation rights and options to purchase shares of capital stock of another corporation which is merged into, consolidated with, or all or a substantial portion of the property or stock of which is acquired by, the Corporation or one of its Subsidiaries. The terms and conditions of the substitute Options and Rights so granted may vary from the terms and conditions set forth in this Plan to such extent as the Committee may deem appropriate (but only to the extent consistent with the requirements of Rule 16b-3) in order to conform, in whole or part, to the provisions of the options and stock appreciation rights in substitution for which they are granted. Such Options and Rights shall not be counted toward the 100,000 Share limit imposed by the second sentence of Section 5.1, except to the extent it is determined by the Committee that the applicability of such sentence is required in order for grants of Options and Rights hereunder to be eligible to qualify as "performance-based compensation" within the meaning of Section 162(m) of the Code.

16 Effectiveness of the Plan

The Plan and any amendments requiring stockholder approval pursuant to Article 14 are subject to approval by vote of the stockholders of the Corporation within 12 months after their adoption by the Board. Subject to that approval, the Plan and any amendments are effective on the date on which they are adopted by the Board. Options, Rights, Restricted Stock and Incentive Shares may be granted or awarded prior to stockholder approval of the Plan or amendments, but each such Award shall be subject to the approval of the Plan or amendments by the stockholders. The date on which any Option, Right, Restricted Stock or Incentive Shares granted or awarded prior to stockholder approval of the Plan or amendment is granted or awarded shall be the Date of Grant for all purposes as if the Option, Right, Restricted Stock or Incentive Shares had not been subject to approval. No Option, or Right may be exercised prior to such stockholder approval, and any Restricted Stock or Incentive Shares awarded shall be forfeited if such stockholder approval is not obtained.

17 Withholding

The Corporation's obligation to deliver Shares or pay any amount pursuant to the terms of any Award hereunder shall be subject to the satisfaction of applicable federal, state and local tax withholding requirements. To the extent provided in the applicable Agreement and in accordance with rules prescribed by the Committee, an Optionee or Grantee may satisfy any such withholding tax obligation by any of the following means or by a combination of such means:

(i) tendering a cash payment, (ii) authorizing the Corporation to withhold Shares otherwise issuable to the Optionee or Grantee, or (iii) delivering to the Corporation already owned and unencumbered Shares.

18 Term of the Plan

Unless sooner terminated by the Board pursuant to Article 14, the Plan shall terminate on June 30, 2005, and no Options, Rights, Restricted Stock or Incentive Shares may be granted or awarded after such date. The termination of the Plan shall not affect the validity of any Award outstanding on the date of termination.

19 Indemnification of Committee

In addition to such other rights of indemnification as they may have as Directors or as members of the Committee, the members of the Committee shall be indemnified by the Corporation against the reasonable expenses, including attorneys' fees, actually and reasonably incurred in connection with the defense of any action, suit or proceeding, or in connection with any appeal therein, to which they or any of them may be a party by reason of any action taken or failure to act under or in connection with the Plan or any Option, Right, Restricted Stock or Incentive Shares granted or awarded hereunder, and against all amounts reasonably paid by them in settlement thereof or paid by them in satisfaction of a judgment in any such action, suit or proceeding, if such members acted in good faith and in a manner which they believed to be in, and not opposed to, the best interests of the Corporation.

20 General Provisions

20.1. The establishment of the Plan shall not confer upon any Employee or Independent Director any legal or equitable right against the Corporation, any Subsidiary or the Committee, except as expressly provided in the Plan.

20.2. The Plan does not constitute inducement or consideration for the employment of any Employee or the service of any Independent Director, nor is it a contract between the Corporation or any Subsidiary and any Employee or Independent Director. Participation in the Plan shall not give an Employee or Independent Director any right to be retained in the service of the Corporation or any Subsidiary.

20.3. Neither the adoption of this Plan nor its submission to the stockholders, shall be taken to impose any limitations on the powers of the Corporation or its Subsidiaries to issue, grant, or assume options, warrants, rights, or restricted stock, otherwise than under this Plan, or to adopt other stock option or restricted stock plans or to impose any requirement of stockholder approval upon the same.

20.4. The interests of any Employee or Independent Director under the Plan are not subject to the claims of creditors and may not, in any way, be assigned, alienated or encumbered except as provided in Article 12.

20.5. The Plan shall be governed, construed and administered in accordance with the laws of the State of Delaware and the intention of the Corporation that Incentive Stock Options granted under the Plan qualify as such under section 422 of the Code.

20.6. The Committee may require each person acquiring Shares pursuant to Awards hereunder to represent to and agree with the Corporation in writing that such person is acquiring the Shares without a view to distribution thereof. The certificates for such Shares may include any legend which the Committee deems appropriate to reflect any restrictions on transfer. All certificates for Shares issued pursuant to the Plan shall be subject to such stock transfer orders and other restrictions as the Committee may deem advisable under the rules, regulations and other requirements of the Securities and Exchange Commission, any stock exchange upon which the Common Stock is then listed, and any applicable federal or state securities laws. The Committee may place a legend or legends on any such certificates to make appropriate reference to such restrictions.

20.7. The Corporation shall not be required to issue any certificate or certificates for Shares with respect to Awards under this Plan, or record any person as a holder of record of such Shares, without obtaining, to the complete satisfaction of the Committee, the approval of all regulatory bodies deemed necessary by the Committee, and without complying to the Committee's complete satisfaction, with all rules and regulations, under federal, state or local law deemed applicable by the Committee.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Exhibit 10.18

GSE Systems, Inc.
(Exact name of registrant as specified in its charter)

MODIFICATION AGREEMENT

THIS MODIFICATION AGREEMENT (this "Agreement") is made as of the ___ day of January, 1999 by and among GSE POWER SYSTEMS, INC. (f/k/a Simulation, Systems & Services Technologies Company), a Delaware corporation ("GSE Power"), MSHI, INC., a Virginia corporation ("MSHI"), GSE PROCESS SOLUTIONS, INC., a Delaware corporation ("GSE Process"), GSE SYSTEMS, INC., a Delaware corporation ("GSE"), GP INTERNATIONAL ENGINEERING & SIMULATION, INC., a Delaware corporation ("GPI"), GP STRATEGIES CORPORATION, a Delaware corporation ("GP Strategies"), MANTECH INTERNATIONAL CORPORATION, a New Jersey corporation ("ManTech"), GSE PROCESS SOLUTIONS B.V. (f/k/a Beleggingsmaatschappij Rivier B.V.) ("GSE B.V."), GSE PROCESS SOLUTIONS SINGAPORE (PTE) LIMITED ("GSE Singapore") and GSE PROCESS SOLUTIONS BELGIUM NV ("GSE Belgium") and FIRST UNION NATIONAL BANK, a national banking association, successor by merger to CoreStates Bank, N.A. (the "Lender"). GSE Power, MSHI and GSE Process are collectively called the "Borrowers." GSE, GPI, GSE B.V., GSE Singapore, GSE Belgium, GP Strategies and ManTech are collectively called the "Guarantors." The Borrowers and the Guarantors are collectively called the "Obligors."

Recitals

A. \$7,000,000 GSE Power Line of Credit

A-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (the "GSE Power Line of Credit") to GSE Power and MSHI pursuant to a Letter of Credit, Loan and Security Agreement dated January 30, 1996, as amended from time to time (the "GSE Power Line of Credit Agreement"). The GSE Power Line of Credit is evidenced by a Promissory Note dated January 30, 1996 in the original principal amount of \$7,000,000, as amended from time to time (the "GSE Power Line of Credit Note").

A-2. The GSE Power Line of Credit is secured by, among other things, (a) the GSE Power Line of Credit Agreement, whereby GSE Power and MSHI granted to the Lender a security interest in (i) all of GSE Power's and MSHI's Accounts, Inventory, Chattel Paper, Documents, Instruments, General Intangibles (including without limitation all tax refunds) and Equipment (whether or not fixtures) (as defined in the GSE Power Line of Credit Agreement), as more particularly described therein and (ii) a Lockbox (the "GSE Power Lockbox"), Restricted Account #14106-95540, the Borrowers' Account #14106-95532 (as defined in the GSE Power Line of Credit Agreement) and any other account established by GSE Power or MSHI with the Lender and all cash and any other assets contained therein; (b) a Security Agreement dated January 30, 1996 between GPI and the Lender (the "GPI Security Agreement"), whereby GPI granted to the Lender a security interest in all of GPI's inventory (including raw materials and work-in-process), equipment, accounts, general intangibles, chattel paper, instruments and documents, as more particularly described therein; (c) a Collateral Assignment of Patents, Trademarks, Copyrights, Licenses and Trade Secrets dated January 30, 1996 between GSE Power and the Lender (the "GSE Power Assignment of Patents"), whereby GSE Power granted to the Lender a security interest in all of GSE Power's patents, patent applications, inventions, trademarks, service marks, trademark applications, service mark applications, trademark registrations, service mark registrations, tradenames, trade dress, goodwill, licenses, copyrights, copyright applications, copyright registrations and trade secrets, as more particularly described therein; and (d) a Collateral Assignment of Patents, Trademarks, Copyrights, Licenses and Trade Secrets dated January 30, 1996 between GPI and the Lender (the "GPI Assignment of Patents"), whereby GPI granted to the Lender a security interest in all of GPI's patents, patent applications, inventions, trademarks, service marks, trademark applications, service mark applications, trademark registrations, service mark registrations, tradenames, trade dress, goodwill, licenses, copyrights, copyright applications, copyright registrations and trade secrets, as more particularly described therein.

A-3. The GSE Power Line of Credit is guaranteed by GSE and GPI pursuant to separate Guaranty Agreements dated January 30, 1996 (the "GSE Power Corporate Guaranties").

A-4. The GSE Power Line of Credit is also guaranteed by the Export-Import Bank ("Exim") pursuant to a Master Guarantee Agreement (No. PA-MGA-005) dated December 12, 1995 and a Master Guarantee Agreement (No. PA-MGA-96-005) dated February 13, 1997, as amended from time to time, including without limitation a letter dated December 17, 1998 evidencing an extension by Exim of the Availability Date (as defined in such Master Guarantee Agreement) to March 31, 1999 (collectively, the "Exim Guaranty"). In connection with the Exim Guaranty, GSE Power and MSHI entered into Borrower Agreements dated December 12, 1995 and February 13, 1997 with the Lender, as amended from time to time (collectively, the "Exim Borrower Agreement").

A-5. Pursuant to the GSE Power Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Power and MSHI entered into separate Master Letter of Credit Agreements dated January 30, 1996, in favor of the Lender (the "GSE Power Letter of Credit Agreements").

A-6. The GSE Power Line of Credit Agreement, the GSE Power Line of Credit Note, the GPI Security Agreement, the GSE Power Assignment of Patents, the GPI Assignment of Patents, the GSE Power Corporate Guaranties, the Exim Guaranty, the Exim Borrower Agreement, the GSE Power Letter of Credit Agreements and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Power Line of Credit are collectively called the "GSE Power Loan Documents".

A-7. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Power Letter of Credit Agreements, there is due under the GSE Power Line of Credit principal of Five Million Eight Hundred Thousand Nine Hundred and 00/100 Dollars (\$5,800,900.00) and interest of Twenty-Three Thousand Six Hundred Fifty-Five and 00/100 Dollars (\$23,655.00), plus attorneys' fees and other costs which are payable under the GSE Power Loan Documents.

A-8. Pursuant to Article III of the GSE Power Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Power and MSHI under the GSE Power Line of Credit, there is outstanding Letter of Credit No. SM406588 in the face amount of \$180,243 issued by the Lender for the benefit of Central Trust of China Procurement Department (the "GSE Power Letter of Credit").

B. \$3,000,000 GSE Process Line of Credit

B-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (subsequently reduced to \$3,000,000) (the "GSE Process Line of Credit") to GSE Process pursuant to a Letter of Credit, Loan and Security Agreement dated January 31, 1995, as amended and restated by an Amended and Restated Letter of Credit, Loan and Security Agreement dated October 13, 1995, as amended by an Amendment Number One to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated February 23, 1996 ("Amendment Number One") and by an Amendment Number Two to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated November 11, 1997 ("Amendment Number Two") (collectively, the "GSE Process Line of Credit Agreement"). The GSE Process Line of Credit is evidenced by a Promissory Note dated October 13, 1995 in the original principal amount of \$7,000,000 (which replaces a Promissory Note dated January 31, 1995 in the original principal amount of \$6,000,000), as amended by Amendment Number One and by Amendment Number Two (collectively, the "GSE Process Line of Credit Note")

B-2. The GSE Process Line of Credit is secured by, among other things, (a) the GSE Process Line of Credit Agreement, whereby GSE Process granted to the Lender a security interest in (i) all of GSE Process's Accounts, Inventory, Chattel Paper, Documents, Instruments, General Intangibles (including without limitation all tax refunds) and Equipment (whether or not fixtures) (as defined in the GSE Process Line of Credit Agreement), as more particularly described therein and (ii) a Lockbox (the "GSE Process Lockbox"), Restricted Account #2013-3257, the Borrower's Account #2013-3249 (as defined in the GSE Process Line of Credit Agreement) and any other account established by GSE Process with the Lender and all cash and any other assets contained therein; and (b) a Demand Note dated January 31, 1995 from GSE to GSE Process in the original principal amount of \$750,000, which has been endorsed to the order of the Lender (the "Assigned Note").

B-3. The GSE Process Line of Credit is guaranteed by GSE B.V., GSE Singapore and GSE Belgium pursuant to separate Guaranties dated October 13, 1995 and by GP Strategies and ManTech pursuant to separate Guarantees dated March 6, 1998 (the "GSE Process Guaranties").

B-4. Pursuant to the GSE Process Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Process entered into a Master Letter of Credit Agreement dated January 31, 1995, in favor of the Lender (the "GSE Process Letter of Credit Agreement").

B-5. The GSE Process Line of Credit Agreement, the GSE Process Line of Credit Note, the Assigned Note, the GSE Process Guaranties, the GSE Process Letter of Credit Agreement and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Process Line of Credit are collectively called the "GSE Process Loan Documents."

B-6. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Process Letter of Credit Agreement, there is due under the GSE Process Line of Credit principal of Zero and 00/100 Dollars (\$-0-) and interest of One Thousand One Hundred Ten and 52/100 Dollars (\$1,110.52), plus attorneys' fees and other costs which are payable under the GSE Process Loan Documents.

B-7. Pursuant to Article III of the GSE Process Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Process under the GSE Process Line of Credit, there is outstanding Letter of Credit No. 405600 in the face amount of \$630,000 issued by the Lender for the benefit of 8930 Stanford Boulevard, LLC (the "GSE Process Letter of Credit").

C. The GSE Power Line of Credit and the GSE Process Line of Credit are called the "Lines of Credit." The GSE Power Line of Credit Agreement and the GSE Process Line of Credit Agreement are called the "Line of Credit Agreements." The GSE Power Line of Credit Note and the GSE Process Line of Credit Note are called the "Notes." The GSE Power Loan Documents and the GSE Process Loan Documents are called the "Loan Documents." The GSE Power Lockbox and the GSE Process Lockbox are collectively called the "Lockboxes." Restricted Account #14106-95540 and Restricted Account #2013-3257 are collectively called the "Restricted Accounts." Borrowers' Account #14106-95532 and Borrower's Account #2013-3249 are collectively called the "Borrowers' Accounts." The GSE Power Letter of Credit Agreements and the GSE Process Letter of Credit Agreement are collectively called the "Letter of Credit Agreements." The GSE Power Letter of Credit and the GSE Process Letter of Credit (and any replacement for such Letter of Credit issued pursuant to paragraph 10 hereof), together with any other Letters of Credit which may be issued by the Lender pursuant to the terms of the Letter of Credit Agreements, as amended by this Agreement, are collectively called the "Letters of Credit."

D. Capitalized terms used herein and no otherwise defined herein shall have the meanings set forth in the applicable Loan Documents.

E. The Lines of Credit matured on December 31, 1998.

F. The Obligors have requested that the Lender continue to make advances under the Lines of Credit and extend the maturity dates of the Lines of Credit until June 30, 1999 and the Lender is willing to do so subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the foregoing, the mutual covenants and agreements set forth herein, the sum of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the parties, the parties hereto covenant and agree as follows.

1. Recitals. The Recitals set forth above are a material part of this Agreement. The Obligors acknowledge and affirm the accuracy of the Recitals set forth above.

2. Confirmation and Ratification of Documents; Consent to this Agreement. The Obligors agree that the Loan Documents are in full force and effect and that each Loan Document shall remain in full force and effect unless and until modified or amended in writing in accordance with its terms. The Obligors ratify and confirm their respective obligations under the Loan Documents, and agree that the execution and delivery of this Agreement shall not in any way diminish or invalidate any of their respective obligations under the Loan Documents. All parties consent to the execution and delivery of this Agreement and to all the provisions of this Agreement to the extent that such provisions may modify the terms and provisions of any of the Loan Documents.

3. Extension Fee/Administrative Fee.

- (a) Upon execution of this Agreement, the Borrowers shall pay to the Lender by certified or cashier's check an extension fee of \$10,000.
- (b) Commencing on the date of execution of this Agreement (representing the January 1999 monthly payment) and on the first day of each month thereafter, the Borrowers shall pay monthly to the Lender an administrative fee of approximately \$500, the exact amount to be determined by the Lender.

4. Costs and Expenses. Upon execution of this Agreement, the Borrowers shall pay to the Lender by certified or cashier's check all actual costs and expenses, including, without limitation, attorneys' fees, UCC search costs and recordation costs incurred by the Lender in connection with the Lines of Credit.

5. Landlord's Waivers. Contemporaneously with the execution of this Agreement, the Borrowers shall deliver to the Lender agreements which must be in form and substance satisfactory to the Lender in its sole discretion, waiving any landlord's or mortgagee's or lienholder's rights to enforce any claim against the Borrowers against any collateral of the Lender and allowing the Lender to have access to its collateral for purposes of inspection and/or to take possession thereof in accordance with the Lender's rights under the Loan Documents and applicable law. In connection therewith, and contemporaneously with the execution of this Agreement, the Borrowers shall provide to the Lender copies of all leases, mortgages or similar agreements relating to any facility that is not owned by the Borrowers at which any collateral is located.

6. Permanent Reductions in GSE Process Line of Credit. Upon execution of this Agreement, the availability under the GSE Process Line of Credit shall be permanently reduced to \$2,000,000. Effective January 31, 1999, the GSE Process Line of Credit shall be permanently reduced to \$1,750,000. Effective February 3, 1999, the GSE Process Line of Credit shall be permanently reduced to \$1,120,000. Effective March 31, 1999, the GSE Process Line of Credit shall be permanently reduced to \$1,000,000. In the event that, on the date that each of the foregoing reductions is effective, the amount outstanding under the GSE Process Line of Credit shall exceed the amount available under the GSE Process Line of Credit as reduced, GSE Process shall pay to the Lender an amount equal to the difference between the amount available as reduced and the amount outstanding on the date that each of the foregoing reductions is effective.

7. Qualified Receivables/Eligible Receivables/Borrowing Base Certificates.

(a) For the GSE Power Line of Credit, for purposes of determining Collateral Value, Qualified Receivables will continue to be valued at ninety percent (90%) of their outstanding principal amount. The definition of Qualified Receivables in the GSE Power Line of Credit Agreement is amended to provide that the payment obligation represented by the Qualified Receivable shall not have been outstanding more than 90 calendar days from the date of the original invoice. Qualified Receivables shall not include any intercompany Receivables (i.e., Receivables owed by an affiliate or subsidiary of either of the Borrowers or any of the Guarantors). Inventory (i.e., Unbilled Receivables) shall be valued at fifty percent (50%) of their outstanding principal amount. Qualified Receivables and Inventory which are not included for purposes of determining Collateral Value shall nevertheless remain as collateral for all obligations owed to the Lender.

(b) For the GSE Process Line of Credit, Collateral Value will be equal to 80% of the amount of Eligible Receivables (as defined in the applicable loan agreement). The definition of Eligible Receivables in the GSE Process Line of Credit Agreement is amended to provide that the payment obligation represented by the Qualified Receivable shall not have been outstanding more than 60 calendar days from the date of the original invoice. Eligible Receivables shall not include any intercompany Receivables (i.e., Receivables owed by an affiliate or subsidiary of either of the Borrowers or any of the Guarantors) or any International Receivable. Inventory shall be valued at zero. Eligible Receivables and Inventory which are not included for purposes of determining Collateral Value shall nevertheless remain as collateral for all obligations owed to the Lender. GSE Process shall maintain at all times (regardless of whether any amounts are outstanding under the GSE Process Line of Credit or the GSE Process Line of Credit has been paid in full) at least \$3,000,000 in Eligible Receivables.

(c) Each of the Borrowers shall furnish the Lender with borrowing base certificates (in form acceptable to the Lender in its sole discretion) (i) not later than 1:00 p.m. (Baltimore, Maryland time) on Tuesday of each week (for the week ending the prior Friday) (regardless of whether any advance is requested),
(ii) not later than 1:00 p.m. (Baltimore, Maryland time) on the Business Day following any day (which must be a Business Day) on which an advance is requested (which must be current as of the day immediately preceding the day the borrowing base certificate must be furnished to the Lender) and (iii) at such other times as the Lender may request. Such borrowing base certificates should be sent to (a) First Union National Bank, 1970 Chain Bridge Road, McLean, Virginia 22102, Attn: David A. Dix, Vice President and (b) Audit and Collateral, Philadelphia, Pennsylvania, Attn: Betty Boyle, Telecopy (215) 973-2224.

8. Interest Rate. The unpaid principal balances (both the existing unpaid principal balances and future advances) of the Lines of Credit shall bear interest at the Lender's prime rate plus one and one-half percent (1 1/2%) through April 29, 1999. Commencing on April 30, 1999, the unpaid principal balances (both the existing unpaid principal balances and future advances) of the Lines of Credit shall bear interest at the Lender's prime rate plus three percent (3%). The Borrowers will no longer have the option to request a Eurodollar Loan (as defined in the applicable Line of Credit Agreements). Upon the occurrence of an Event of Default, interest shall accrue and be payable at the applicable interest rate plus one percent (1%).

9. Maturity Date. The Lines of Credit shall expire on June 30, 1999 (the "Maturity Date") and all principal, interest and other sums then outstanding shall be immediately due and payable. The Obligors acknowledge that the Lender has previously extended the maturity dates of the Lines of Credit and further acknowledge that the Lender has advised the Obligors that this will be the final extension.

10. Letters of Credit.

(a) No Letters of Credit that expire after the date the Exim Guaranty expires shall be issued under the GSE Power Line of Credit. Notwithstanding the foregoing, any Letters of Credit issued under the GSE Power Line of Credit must comply in all respects with Section 4.10 of the Exim Guaranty. No Letters of Credit shall be issued under the GSE Process Line of Credit, except that upon the expiration of existing GSE Process Letter of Credit No. 405600 in the face amount of \$630,000 issued by the Lender for the benefit of 8930 Stanford Boulevard, LLC, and provided that no Event of Default has occurred hereunder, the Lender agrees to issue a Letter of Credit in the face amount of \$555,000 with an expiration date of February 3, 2000 to replace such existing GSE Process Letter of Credit.

(b) By June 30, 1999, the Borrowers must either (i) replace any Letters of Credit that expire after June 30, 1999 and cause the beneficiaries of such Letters of Credit to return the original Letters of Credit to the Lender or (ii) purchase a certificate of deposit in an amount equal to the aggregate face amount of all Letters of Credit that expire after June 30, 1999, which shall be pledged to the Lender and (A) applied by the Lender against any amounts due under the Letters of Credit in the event any Letters of Credit are drawn or (B) returned to the Borrowers at such time as the original Letters of Credit are returned to the Lender without having been drawn, provided that all principal, interest and other sums due under the Lines of Credit have been paid in full; the Borrowers shall execute such documentation in connection therewith as the Lender may require in its sole discretion.

11. Lockbox. Each of the Borrowers has established a Lockbox with the Lender into which GSE Power and GSE Process have directed, or will direct by written notice in form and substance satisfactory to the Lender in its sole discretion, all account debtors of GSE Power and GSE Process to send all payments on accounts. Amounts received in each Lockbox shall be deposited upon collection into collateral accounts (separately, the "GSE Power Collateral Account" and the "GSE Process Collateral Account" and collectively, the "Collateral Accounts") over which the Lender shall have sole power of withdrawal until such time as the Lines of Credit shall have been fully satisfied. All amounts in the GSE Power Collateral Account shall be applied, on a daily basis, to reduce the outstanding balance of the GSE Power Line of Credit, in such manner as the Lender may determine in its sole discretion. All amounts in the GSE Process Collateral Account shall be applied, on a daily basis, to reduce the outstanding balance of the GSE Process Line of Credit, in such manner as the Lender may determine in its sole discretion. Immediately upon an Event of Default, all amounts in the Collateral Accounts may be applied to reduce the outstanding balances of either or both of the Lines of Credit, in such manner as the Lender may determine in its sole discretion (i.e., all amounts in the GSE Power Collateral Account may be applied to reduce the outstanding balance of the GSE Power Line of Credit and/or the GSE Process Line of Credit and all amounts in the GSE Process Collateral Account may be applied to reduce the outstanding balance of the GSE Process Line of Credit and/or the GSE Power Line of Credit, in such manner as the Lender may determine in its sole discretion).

12. Financial Covenants. The financial covenants set forth in Article X of the Line of Credit Agreements are deleted and replaced with the following:

(a) GSE shall maintain a ratio of Total Liabilities to Tangible Net Worth (i.e., Total Stockholders' Equity less goodwill and other intangible assets and software development costs) of not more than 3.9 to 1.0 at all times commencing on December 31, 1998 and thereafter.

(b) GSE shall maintain a Tangible Net Worth of not less than \$5,000,000 at all times commencing on December 31, 1998 and thereafter.

(c) GSE shall maintain a ratio of EBIT/Interest of not less than 4.0 times at all times commencing on December 31, 1998 and thereafter.

(d) GSE shall maintain Net Working Capital of not less than \$1,000,000 at all times commencing on December 31, 1998 and thereafter.

(e) GSE shall maintain EBITDA for each quarter of not less than \$1,250,000 (to be tested at December 31, 1998 and quarterly thereafter).

Unless otherwise defined, all accounting terms shall have the definitions given them in accordance with generally accepted accounting principles as applied to GSE and its subsidiaries, on a consistent basis by its accountants in the preparation of its previous annual financial statements, and unless otherwise indicated, all accounting terms and covenants shall be applied on a consolidated basis.

13. Borrowings.

(a) Section 11.3 of the Line of Credit Agreements is deleted and replaced with the following: Neither of the Borrowers shall incur any liability for borrowed money except for the indebtedness to the Lender.

(b) The definition of Permitted Liens is amended to delete subsection (h).

(c) Notwithstanding the foregoing, existing indebtedness to GSE or any of the stockholders of GSE as set forth in Schedule 1 attached hereto shall be permitted and the Borrowers shall be permitted to incur indebtedness after the date hereof as set forth on Schedule 2 attached hereto.

14. Financial Statements and Information.

(a) Commencing on January 15, 1999 and on the fifteenth day of each month thereafter, the Borrowers shall provide on a monthly basis a list of accounts receivable, a listing of open unbilled contracts receivable (for GSE Power) and accounts payable agings and listings current as of the end of the prior month. The Borrowers shall send such list to (a) First Union National Bank, 1970 Chain Bridge Road, McLean, Virginia 22102, Attn: David A. Dix, Vice President, (b) Audit and Collateral Management, Philadelphia, Pennsylvania, Attn: Betty Boyle, Telecopy (215) 973-2224 and (c) Exim.

(b) The Borrowers shall provide the Lender and Exim on a monthly basis consolidated and consolidating financial statements in such form and detail as the Lender may require and a certificate of the chief financial officer of GSE stating whether any default or Event of Default has occurred under the Loan Documents, this Agreement or any documents executed in connection with this Agreement and, if so, stating the facts with respect thereto. The Borrowers shall also provide the Lender and Exim on a monthly basis with both a Contract Status Report and open export purchase order listing certified by the chief financial officer of GSE stating whether GSE Power and MSHI are in compliance with the terms and conditions of the Exim Guaranty and related Loan Authorization Agreement and Borrower Agreement and, if not, stating the facts relating to such noncompliance. Such Contract Status Report shall also include letter of credit coverage, currency and United States made product content and such other information as the Lender may request.

(c) Within one hundred twenty (120) days from the end of each fiscal year, the Borrowers shall provide to the Lender and Exim the complete 10-K and consolidating balance sheets and income and expense statements of GSE together with its subsidiaries audited by an independent certified public accountant firm selected by GSE and acceptable to the Lender. Within forty-five (45) days from the end of each fiscal quarter, the Borrowers shall provide to the Lender and Exim the complete 10-Q and consolidating balance sheets and income and expense statements of GSE together with its subsidiaries, in reasonable detail and prepared in accordance with GAAP and certified by the chief financial officer of GSE. The foregoing financial statements shall be accompanied by a certificate of the chief financial officer of GSE stating whether any default or Event of Default has occurred under the Loan Documents, this Agreement or any documents executed in connection with this Agreement and, if so, stating the facts with respect thereto. Such certificate shall also state whether GSE Power and MSHI are in compliance with the terms and conditions of the Exim Guaranty, the Exim Borrower Agreement and the related Loan Authorization Agreement. The Borrowers shall provide to the Lender and Exim such other financial or other information as the Lender may request in its reasonable discretion from time to time.

(d) Within one hundred twenty (120) days from the end of each fiscal year, GP Strategies shall provide to the Lender and Exim a copy of its 10-K and ManTech shall provide to the Lender and Exim the consolidated balance sheets and income and expense statements of ManTech together with its subsidiaries audited by a national independent certified public accountant firm. Within sixty (60) days from the end of each fiscal quarter, GP Strategies shall provide to the Lender and Exim a copy of its 10 Q SEC reports and ManTech shall provide to the Lender and Exim the consolidated balance sheets and income and expense statements of Mantech in the same form currently being provided to the Lender in connection with a separate loan made by the Lender to ManTech. If the Lender desires additional financial information from GP Strategies and ManTech, GP Strategies and ManTech will permit the Lender's officers or authorized representatives or accountants to discuss GP Strategies' and ManTech's affairs, finances and accounts with their respective officers at such reasonable times during normal business hours, and as often as the Lender may desire. In the event GP Strategies and/or ManTech refuses to so discuss such affairs, finances and accounts or promptly provide such supplemental material as the Lender may reasonably request during such discussions, an Event of Default shall be conclusively deemed to have occurred, and the Lender may proceed to assert its rights under this Agreement, any documents executed in connection with this Agreement or the Loan Documents as if such Event of Default had occurred without regard to whether an Event of Default has actually occurred.

(e) The Borrowers shall provide to the Lender such other financial or other information as the Lender may request in its reasonable discretion from time to time.

15. Primary Depository Account. The Borrowers shall maintain their primary depository accounts with the Lender.

16. Cross-Default and Cross-Collateralization.

(a) A default under the GSE Power Line of Credit shall be a default under the GSE Process Line of Credit. A default under the GSE Process Line of Credit shall be a default under the GSE Power Line of Credit.

(b) The collateral covered by the GSE Power Line of Credit Agreement and the GPI Security Agreement shall also secure the GSE Process Line of Credit and the GSE Process Letter of Credit. The collateral covered by the GSE Process Line of Credit Agreement shall also secure the GSE Power Line of Credit and the GSE Power Letter of Credit. The term "Borrower's Obligations" as used in the GSE Power Line of Credit Agreement shall mean collectively "Borrower's Obligations" as defined in the GSE Power Line of Credit Agreement and "Borrower's Obligations" as defined in the GSE Process Line of Credit Agreement. The term "Borrower's Obligations" as used in the GSE Process Line of Credit Agreement shall mean collectively "Borrower's Obligations" as defined in the GSE Process Line of Credit Agreement and "Borrower's Obligations" as defined in the GSE Power Line of Credit Agreement. The term "Liabilities" as defined in the GPI Security Agreement shall mean "Liabilities" as defined in the GPI Security Agreement and shall also include the obligations of GPI as guarantor of the GSE Process Line of Credit pursuant to its Amended and Restated Guaranty executed in connection with this Agreement. The Borrowers and GPI hereby assign and reassign, pledge and repledge and grant and regrant to the Lender, and confirm that the Lender has a perfected and continuing security interest, in, and lien on the following: (a) all of the Borrowers' and GPI's Accounts, Inventory, Chattel Paper, Documents, Instruments, General Intangibles (including, without limitation, all tax refunds), and Equipment (whether or not fixtures), whether now owned or existing or hereafter acquired or arising, other than vehicle leases and equipment leases, (b) all returned, rejected or repossessed goods, the sale or lease of which shall have given or shall give rise to an Account or Chattel Paper, (c) all insurance policies relating to the foregoing, (d) all books and records in whatever media (paper, electronic or otherwise) recorded or stored, with respect to the foregoing and all equipment and general intangibles necessary or beneficial to retain, access and/or process the information contained in those books and records, (e) the Lockboxes, the Borrowers' Accounts, the Restricted Accounts, and any other account maintained by any of the Borrowers or GPI with the Lender and all cash held therein; and (f) all cash and non-cash proceeds and products of the foregoing, as security for all of the Borrowers' indebtedness under the Lines of Credit, the Letter of Credit Agreements (or any obligations related to the Letters of Credit) and all other obligations of the Obligors under any of the Loan Documents, this Agreement or any documents executed in connection with this Agreement.

17. Guaranties. GSE and GPI shall continue to guarantee the GSE Power Line of Credit. GSE shall continue to guarantee the GSE Process Line of Credit. GSE B.V., GSE Singapore, GSE Belgium, GP Strategies and ManTech, jointly and severally, shall continue to guarantee the GSE Process Line of Credit and in addition shall guarantee the GSE Power Line of Credit. The liability of GSE, GPI, GSE B.V., GSE Singapore and GSE Belgium is and shall continue to be unlimited. The liability of GP Strategies and ManTech is and shall continue to be limited to \$1,500,000 each, which shall increase by an amount equal to fifty percent (50%) of any amounts drawn by the beneficiary of Letter of Credit No. 405600 and/or any replacement for such Letter of Credit issued pursuant to paragraph 10 hereof on or prior to their respective expiration dates. Such increases shall be effective immediately and automatically upon any such draw(s). GSE Power and GSE Process shall also guarantee the Lines of Credit of each other. In addition, all other affiliates and subsidiaries of GSE, GSE Power and GSE Process (the "Additional Guarantors") shall jointly and severally guarantee the Lines of Credit, such guarantees to be unlimited.

18. MIDFA Guaranty. The Borrowers shall use their best efforts to obtain \$1,000,000 in insurance from the Maryland Industrial Development Financing Authority ("MIDFA") for the Lines of Credit. The Borrowers shall be solely responsible for obtaining the MIDFA guarantee and for paying any premiums, fees or other costs related thereto. Commencing on January 1, 1999 and on the first day of each month thereafter until the Lines of Credit have been paid in full, the Borrowers shall provide to the Lender a written status report detailing these efforts, together with copies of all correspondence, agreements and other writings related to such efforts.

19. Audits of Collateral. The Borrowers shall permit the Lender or any agent or representative thereof, at any reasonable time and from time to time, to conduct a field audit of the inventory and a book audit of the accounts receivable and other collateral at least twice between the date of closing and the Maturity Date. The Obligors shall be responsible for all costs and expenses associated with such audits, which shall be deemed to be obligations which are secured by the Loan Documents, as amended by this Agreement and the documents executed in connection with this Agreement.

20. Refinancing. The Borrowers shall use their best efforts to secure refinancing or seek debt and/or equity in amounts sufficient to satisfy in full the Lines of Credit on or prior to the Maturity Date. Commencing on January 15, 1999 and on the fifteenth day of each month thereafter until the Lines of Credit have been paid in full, the Borrowers shall provide to the Lender a written status report detailing these efforts, together with copies of all supporting documentation, including all material correspondence, agreements and other writings related to such efforts.

21. Press Releases. The Borrowers shall provide the Lender and the Export-Import Bank with copies of all press releases relating to the Obligors and any subsidiaries or affiliates of the Obligors contemporaneously with their release.

22. Additional Documentation/Post-Closing Items.

(a) Contemporaneously with the execution hereof, the Borrowers shall execute modifications of the Notes, substantially in the forms attached hereto as Exhibit A.

(b) Contemporaneously with the execution hereof, the Guarantors and Additional Guarantors shall execute guaranties, substantially in the forms attached hereto as Exhibit B.

(d) Within ten (10) days after the execution hereof, the Borrowers and GPI shall deliver to the Lender a list of all of the locations at which any of the collateral is located, the approximate value of the collateral located at each such location and a listing of the collateral located at each such location and, within two (2) days of a request by the Lender shall execute and deliver to the Lender such amendments to the existing financing statements and such additional financing statements as the Lender may request.

(e) Within (2) days of a request by the Lender, GSE Power and GPI shall execute and deliver to the Lender such amendments/reaffirmations of

the GSE Power Assignment of Patents and the GPI Assignment of Patents and related documents as the Lender may request.

(f) Within five (5) days after the execution hereof, the Borrowers shall deliver to the Lender a letter signed by counsel for the Borrowers stating that

(i) Ryan Nuclear Industries (RNI) is a division of GSE Power and is not a separately organized legal entity; (ii) Ryan Nuclear Industries (RNI) is the same entity that the Borrowers report on the borrowing base certificates that the Borrowers submit to the Lender and (iii) GSE Process Solutions BV (KOREA) is a division of GSE Process Solutions BV (Netherlands) and is not a separately organized legal entity.

23. Resolutions of the Obligors/Good Standing. Within fifteen (15) days after the execution of this Agreement, the Obligors shall deliver to the Lender resolutions prepared by the Obligors evidencing their consent to the execution of this Agreement and the documents executed in connection with this Agreement. Within ten (10) days after the execution of this Agreement, the Obligors shall also obtain and deliver to the Lender current good standing certificates for all of the jurisdictions in which the Obligors are incorporated or doing business. Notwithstanding the foregoing, GP Strategies and ManTech shall only be required to obtain and deliver to the Lender, within ten (10) days after the execution of this Agreement, current good standing certificates for the jurisdictions in which GP Strategies and ManTech are incorporated and for the State of Maryland if GP Strategies or ManTech are doing business in Maryland.

24. Representations and Warranties. In order to induce the Lender to enter into this Agreement, the Obligors represent and warrant to the Lender as follows:

(a) Existing Representations and Warranties. The representations and warranties set forth in the Loan Documents are true and correct in all material respects (references to financial statements of the Borrowers and GSE shall be deemed to be references to the latest financial statements of the Borrowers and GSE) with the same effect as though made on and as of the date hereof, except to the extent that such representations and warranties expressly relate to an earlier date.

(b) No Defaults or Events of Default. The Borrowers are in compliance with all terms and provisions of the Loan Documents, except for the financial covenants set forth in Article X of the Line of Credit Agreements.

(c) Organization and Standing. Each Obligor is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation, with corporate power adequate to own and operate the properties owned by it, to carry on the business conducted by it, to enter into and perform this Agreement and to carry out the transactions contemplated hereby.

(d) Authorization and Validity. The execution and delivery of this Agreement by each of the Obligors and the performance of each Obligor's obligations hereunder have been duly authorized by proper corporate action and this Agreement constitutes the legal, valid and binding obligations of each Obligor and is enforceable in accordance with its terms.

(e) Compliance with Other Instruments. None of the Obligors are in violation of any provision of its articles of incorporation or by-laws and are not in default under any existing judgment or decree or of any existing law, governmental order, rule or regulation applicable to it, or of any agreement or other instrument to which it is a party or by which it or its assets are bound to the extent that any such violation would affect the ability of any of the Obligors to perform any of their obligations under this Agreement, any documents executed in connection with this Agreement or the Loan Documents in any material respect. Neither the execution and delivery of this Agreement nor the consummation of the transactions herein contemplated, nor compliance with the terms and provisions hereof, has constituted or resulted in or will constitute or result in a breach of the articles of incorporation or by-laws of any Obligor, or the violation of any presently existing applicable governmental requirement or will conflict or will be inconsistent with or will result in any breach of, any of the terms, covenants, conditions or provisions thereof, or will constitute a default under, any indenture, mortgage, deed of trust, instrument, document, agreement or contract of any kind to which any Obligor is a party or by which any Obligor may be bound or subject to the extent that any such breach or default would affect the ability of any of the Obligors to perform any of their obligations under this Agreement, any documents executed in connection with this Agreement or the Loan Documents in any material respect.

(f) Assets. The Borrowers' and GPI's assets are not subject to any existing liens or encumbrances except that granted to the Lender except as shown on Exhibit C attached hereto.

(g) No Claims, etc. There are no claims, defenses or setoffs with respect to the Notes or with respect to any of the other Loan Documents, or with respect to the indebtedness evidenced or secured thereby or with respect to the collection or enforcement of any of the same (and to the extent any such claim, setoff or defense exists, they are each waived and relinquished in their entirety).

(h) Disclosure. This Agreement and all agreements, documents, certificates or statements furnished to the Lender by or on behalf of the Obligors in connection with the transactions contemplated hereby are true, correct and complete and do not contain any untrue statement of material fact.

(i) Benefit. Each Obligor has derived direct or indirect benefit from this Agreement and the transactions contemplated hereby.

(j) Free Act and Will. The Obligors are not entering into this Agreement in reliance upon any statement, representation or warranty of any nature whatsoever made by the Lender, or any other person or entity whatsoever, which is not expressly stated herein, and each Obligor has entered into this Agreement entirely of its own free act and will.

(k) Ryan Nuclear Industries (RNI). Ryan Nuclear Industries (RNI) is a division of GSE Power and is not a separately organized legal entity. Ryan Nuclear Industries (RNI) is the same entity that the Borrowers report on the borrowing base certificates that the Borrowers submit to the Lender.

(l) GSE Process Solutions BV (KOREA). GSE Process Solutions BV (KOREA) is a division of GSE Process Solutions BV (Netherlands) and is not a separately organized legal entity.

25. Events of Default. The occurrence of one or more of any of the following events (the "Events of Default") shall constitute an Event of Default under this Agreement:

- (a) Failure to pay to the Lender when due any amounts required by this Agreement or any document executed in connection with this Agreement.
- (b) Failure to comply with or perform as and when required, or to observe, any of the terms, conditions or covenants of this Agreement or any document executed in connection with this Agreement.
- (c) If any representation or warranty made herein, in any document executed in connection with this Agreement or in any report, certificate, financial statement or other instrument furnished in connection with this Agreement, shall prove to have been materially false or misleading on the date as of which it was made.
- (d) If the Lender determines in good faith that a material adverse change has occurred in the financial condition or business condition of GSE, GSE Power and/or GSE Process.
- (e) If the Exim Guaranty has not been extended fourteen (14) days before it is due to expire;
- (f) If the Exim Guaranty otherwise ceases to be in full force and effect or a default occurs thereunder or under the Exim Borrower Agreement.
- (g) If any of the Letters of Credit are drawn and not repaid by the Borrowers immediately upon demand by the Lender.
- (h) If the Borrower fails to provide satisfactorily, in the Lender's sole determination, for the Borrower's year 2000 compatibility and the same is not cured within thirty (30) days after written notice thereof.
- (i) If a default which remains uncured after the expiration of any applicable cure period or an Event of Default occurs under any of the Loan Documents and such default shall not be cured within any applicable cure periods set forth therein.

26. Remedies. Immediately upon the occurrence of any Event of Default, the Lender shall have the right to exercise any and all rights available to it under this Agreement, any document executed in connection with this Agreement or any of the Loan Documents and applicable law. All rights and remedies available to the Lender under this Agreement, any document executed in connection with this Agreement or any of the Loan Documents and applicable law may be asserted concurrently, cumulatively or successively, from time to time, as long as the parties hereto shall be indebted to the Lender.

27. Release. Each Obligor, for itself and its directors, officers, employees, agents, members, predecessors, successors and assigns, hereby releases and forever waives and relinquishes all claims, demands, obligations, liabilities and causes of action of whatsoever kind or nature, whether known or unknown, which it or he has, may have or might have or assert now or in the future against the Lender and/or any affiliates or entities related to such entity, and any of the directors, officers, employees, agents, predecessors (including CoreStates Bank, N.A.), successors and assigns, as the case may be, of all such entities, in connection with, directly or indirectly, this Agreement, the Loan Documents, any document executed in connection with this Agreement or any transactions contemplated hereby or thereby, any prior loan made or credit extended to the Borrowers by the Lender or otherwise to any relationship between any Obligor and the Lender.

28. Further Assurances and Corrective Instruments. The Obligors will execute, acknowledge and deliver, from time to time, such supplements hereto and such further instruments and documents, as the Lender may require in its reasonable discretion to protect, perfect and enforce the Lender's interest in any collateral security for the Lines of Credit or to facilitate the carrying out of the intentions of the parties to this Agreement.

29. Waiver of Trial by Jury. Each Obligor and the Lender hereby waive trial by jury in any action or proceeding to which any Obligor and the Lender may be parties, arising out of or in any way pertaining to this Agreement, any of the documents executed in connection with this Agreement or the Loan Documents. It is agreed and understood that this waiver constitutes a waiver of trial by jury of all claims against all parties to such actions or proceedings, including claims against parties who are not parties to this Agreement. This waiver is knowingly, willingly and voluntarily made by each Obligor and each Obligor hereby represents that no representations of fact or opinion have been made by any individual to induce this waiver of trial by jury or to in any way modify or nullify its effect. Each Obligor further represents that it has been represented or has had the opportunity to be represented in the signing of this Agreement and in the making of this waiver by independent legal counsel, selected of its own free will, and that it has had the opportunity to discuss this waiver with counsel.

30. Bankruptcy.

(a) Each of the Borrowers and GPI warrants and represents to the Lender that it has no present intent (i) to file any voluntary petition in bankruptcy under any Chapter of the Bankruptcy Code or directly or indirectly to cause any of the Borrowers, GPI or any other person or entity that may hereafter own any interest in, or claim any beneficial interest in, any collateral for the Lines of Credit, to file any voluntary petition in bankruptcy under any Chapter of the Bankruptcy Code or to have any involuntary petition in bankruptcy filed against it under any Chapter of the Bankruptcy Code or (ii) in any manner directly or indirectly to cause any of the Borrowers, GPI or any other person or entity that may hereafter own any interest in, or claim any beneficial interest in, any collateral for the Lines of Credit, to seek relief, protection, reorganization, liquidation, dissolution, or similar relief for debtors under any federal, state, or local law, or in equity, or (iii) in any manner directly or indirectly to cause any of the collateral for the Lines of Credit to be the subject of any bankruptcy or insolvency proceedings or the property of any bankruptcy or insolvency estate.

(b) Each of the Borrowers and GPI acknowledges and agrees that in the event the collateral for the Lines of Credit or any portion thereof shall ever become the subject of any bankruptcy or insolvency estate, then the Lender shall immediately become entitled, among other relief to which the Lender may be entitled under this Agreement, the Loan Documents, the documents executed in connection with this Agreement and at law or in equity, to obtain upon ex parte application therefor and without further notice or action of any kind, (i) an order from the court prohibiting the use by the trustee in bankruptcy or by any of the Borrowers or GPI as debtor in possession of the Lender's "cash collateral" (as such term is defined in Section 363 of the Bankruptcy Code) in connection with the Lines of Credit, and (ii) an order from the court granting immediate relief from the automatic stay pursuant to Section 362 of the Bankruptcy Code so as to permit the Lender to exercise all of its rights and remedies pursuant to this Agreement, the Loan Documents, the documents executed in connection with this Agreement and at law and in equity, and each of the Borrowers and GPI further acknowledges and agrees that the occurrence or existence of any Event of Default under this Agreement shall, in and of itself, constitute "cause" for relief from the automatic stay pursuant to the provisions of Section 362(d)(1) of the Bankruptcy Code.

(c) Each of the Borrowers and GPI further acknowledges and agrees that in the event of the filing of any voluntary or involuntary petition in bankruptcy by or against any of the Borrowers or GPI, none of the Borrowers or GPI shall assert or request any other party to assert that the automatic stay provided by Section 362 of the Bankruptcy Code shall operate or be interpreted to stay, interdict, condition, reduce, or inhibit the ability of the Lender to enforce any rights it has by virtue of this Agreement the Loan Documents or the documents executed in connection with this Agreement, or any other rights the Lender has, whether now or hereafter acquired, against any person or entity which is not a debtor in such bankruptcy proceedings or against any property owned by any such non-debtor; and further that, in the event of the filing of any voluntary or involuntary petition in bankruptcy by or against any of the Borrowers or GPI, none of the Borrowers or GPI shall seek a supplemental stay or any other relief, whether injunctive or otherwise, pursuant to Section 105 of the Bankruptcy Code or any other provision of the Bankruptcy Code, to stay, interdict, condition, reduce, or inhibit the ability of the Lender to enforce any rights it has by virtue of this Agreement, the Loan Documents, the documents executed in connection with this Agreement or at law or in equity, or any other rights the Lender has, whether now or hereafter acquired, against any person or entity which is not a debtor in such bankruptcy proceedings, or against any property owned by any such non-debtor.

31. Consent to Assignment of Lines of Credit and Disclosure of Documents. Each of the Obligors consents to the sale and assignment by the Lender of any or all of their interest in the Lines of Credit at any time in the Lender's sole and absolute discretion. Within fifteen (15) days after any such sale or assignment, the Lender shall provide the Obligors with notice of the name of the individual or entity purchasing such Lines of Credit. In conjunction with such assignment, each of the Obligors consents to the disclosure of any and all books, records, files, loan agreements, notes, deeds of trust, guaranties, financing statements, assignments of leases, statements, ledger cards, signature cards, corporate and/or partnership documents, financial statements, leases, appraisals, environmental audits, hazard and liability insurance policies, title insurance policies, loan payment histories, income tax returns, credit analyses, notes, correspondence, internal memoranda, checks, deposit account records and other documents which are in the Lender's possession or control or to which the Lender is entitled under the terms of this Agreement, any documents executed in connection with this Agreement or the Loan Documents relating to the Lines of Credit to prospective assignees.

32. Power of Attorney. Each of the Obligors makes, constitutes and appoints the Lender and any agent of the Lender designated by the Lender as their true and lawful attorney-in-fact with full power and authority to endorse, execute and sign for them and in their name all documents and writings which they are required to execute and deliver to the Lender under this Agreement, any document executed in connection with this Agreement or the Loan Documents, which the Lender deems necessary or appropriate to create, perfect, preserve, protect, or enforce the Lender's security interest or rights under this Agreement, any document executed in connection with this Agreement or the Loan Documents. Notwithstanding the foregoing, the Lender agrees not to exercise the foregoing power unless the Obligors have not complied with any request by the Lender to endorse or execute such documents and writings and delivered such endorsed and executed documents and writings to the Lender within five (5) days of a request by the Lender.

33. Year 2000 Compatibility. By June 30, 1999, the Borrowers shall take all reasonable action necessary to assure that the Borrowers' computer-based system is able to operate and effectively process data (including dates) on and after January 1, 2000, in order to (a) conduct normal internal business operations (i.e., processing of timesheets, running of payroll, the operation of internal automated financial operations and human resources computer systems, periodic progress reports for work performed and invoices to enable payment for work performed), and (b) avoid any material adverse effect that may occur to any Borrower's business operations performed for the benefit of such Borrower's customers as a result of any Borrower's failure to provide satisfactorily, in the Lender's sole determination, for such Borrower's year 2000 compatibility. All such systems (i) shall not cease to perform or provide (and shall not cause any software and/or system which is material to the operations of such Borrower or any interface therewith to provide) invalid or incorrect results as a consequence of date functionality and/or

data; (ii) shall not experience any degradation of performance or functionality arising from or relating to date functionality and/or data which is material to the operations of such Borrower or any material interface therewith and which represents or references different centuries, more than one century or leap years; (iii) shall effectively and accurately manage and manipulate data which is material to the operations of such Borrower or any material interface therewith and used by such business computer related systems and derived from, involving or relating in any way to dates, including single century formulas and multi-century or leap year formulas; and (iv) shall not cause an abnormal ending scenario within such business computer related systems or in any software and/or system with which such systems interface (or generate incorrect values or invalid results involving such dates) that could have a material adverse effect on such Borrower's business operations. By February 28, 1999, the Borrowers shall provide the Lender with an assessment with respect to the Borrowers' year 2000 vulnerability. By March 31, 1999, the Borrowers shall provide the Lender with its written plan setting forth in reasonable detail the actions the Borrowers intend to take to ensure the Borrowers' year 2000 compatibility and shall provide the Lender quarterly, or more frequently upon the Lender's request, with reports evidencing the Borrowers' progress toward year 2000 compatibility. By June 30, 1999, the Borrowers shall also provide the Lender with its written plan setting forth in reasonable detail a contingency plan in the event that the Borrowers have not completed the actions the Borrowers intend to take to ensure year 2000 compatibility by December 31, 1999. The Borrowers' failure to provide satisfactorily, in the Lender's sole determination, for the Borrowers' year 2000 compatibility shall be an Event of Default.

34. Miscellaneous.

(a) Waivers by the Lender. Neither any failure nor any delay on the part of the Lender in exercising any right, power or remedy under this Agreement, any documents executed in connection with this Agreement or the Loan Documents, or under applicable law shall operate as a waiver thereof, nor shall a single or partial exercise thereof preclude any other or further exercises thereof or the exercise of any other right, power or remedy. No waiver or forbearance by the Lender as to any of the Obligors shall waive or release any rights or claims which the Lender may now have or hereafter have against any other person, firm or individual. The Lender reserves all rights except to the extent expressly provided herein.

(b) Modifications. No modification or waiver of any provision of this Agreement, any documents executed in connection with this Agreement or the Loan Documents, and no consent by the Lender to any departure by the Obligors therefrom shall in any event be effective unless the modification, waiver or consent shall be in writing. Any such waiver or consent shall be effective only in the specific instance or for the purpose for which given. No notice to, or demand upon the Obligors in any case shall entitle the Obligors to any other or further notice or demand in the same, similar or other circumstances.

(c) No Novation. Nothing set forth in this Agreement or in any of the documents executed in connection with this Agreement shall cause a novation nor shall it extinguish, terminate, or impair the Obligors' obligations under the Loan Documents, as amended by this Agreement, or affect the priority of the lien of the Lender established by the Loan Documents.

(d) Applicable Law. The performance, construction and enforcement of this Agreement, the documents executed in connection with this Agreement and the Loan Documents shall be governed by the laws of the State of Maryland.

(e) Survival; Successors and Assigns. All covenants, agreements, representations and warranties made herein, in any documents executed in connection with this Agreement and in the Loan Documents shall continue in full force and effect. Whenever in this Agreement any of the parties is referred to, such reference shall be deemed to include the successors and assigns of such party. All covenants, agreements, representations and warranties by or on behalf of the Obligors which are contained in this Agreement, in any documents executed in connection with this Agreement and the Loan Documents shall inure to the benefit of the Lender and its successors and assigns.

(f) Severability. If any term, provision or condition, or any part thereof, of this Agreement, any documents executed in connection with this Agreement or the Loan Documents shall for any reason be found or held to be invalid or unenforceable by any court or governmental agency of competent jurisdiction, such invalidity or enforceability shall not affect the remainder of such term, provision or condition or any other term, provision or condition, and this Agreement, any documents executed in connection with this Agreement and the Loan Documents shall survive and be construed as if such invalid or unenforceable term, provision or condition had not been contained therein.

(g) Merger and Integration. This Agreement, any documents executed in connection with this Agreement and the Loan Documents contain the entire agreement of the parties hereto with respect to the matters covered and the transactions contemplated hereby, and no other agreement, statement or promise made by any party hereto, or any employee, officer, agent or attorney of any party hereto, shall be valid or binding.

(h) Headings. The headings and subheadings contained in the titling of this Agreement are intended to be used for convenience only and shall not be used or deemed to limit or diminish any of the provisions hereof.

(i) Gender, Singular. All references made (a) in the neuter, masculine or feminine gender shall be deemed to have been made in all such genders, and (b) in the singular or plural number shall be deemed to have been made, respectively, in the plural or singular number as well.

(j) Time of Essence. Time is of the essence of this Agreement.

35. Notices. Any notices required or permitted by this Agreement shall be in writing and shall be deemed delivered if hand delivered or delivered by certified mail, postage prepaid, return receipt requested, or by facsimile or telegraph as follows, unless such address is changed by written notice hereunder:

If to the Obligor: GSE Systems, Inc.

9189 Red Branch Road
Columbia, MD 21045
Facsimile: (410) 772-3641
Attention: Steve Fogarty
Senior Vice President/Chief Financial Officer

If to ManTech: ManTech International Corporation
12015 Lee Jackson Highway
8th Floor
Fairfax, VA 22033-3300
Attention: Jodee E. Batdorf, Esquire

If to GP Strategies: GP Strategies Corporation
9 West 57th Street
Suite 4170
New York, New York
Attention: Andrea D. Kantor, Esquire

with a copy to: Hedy L. Nelson, Esquire
1899 L Street, N.W.
Third Floor
Washington, D.C. 20036

If to the Lender: First Union National Bank
1970 Chain Bridge Road
7th Floor
McLean, Virginia 22102
Facsimile: (703) 760-5817
Attention: David A. Dix
Vice President

with a copy to: Piper & Marbury L.L.P.
36 South Charles Street
Baltimore, Maryland 21201
Facsimile: (410) 576-5055
Attention: Richard M. Kremen, Esquire

36. Counterparts. This Agreement may be executed simultaneously in any number of counterparts, each of which shall be deemed an original, but all of which shall constitute one in the same agreement.

37. Condition Precedent to Effectiveness. Within five (5) days after the execution of this Agreement, the Borrowers shall obtain and provide to the Lender the written consent of Exim to this Agreement and the documents executed in connection with this Agreement. This Agreement and the documents executed in connection with this Agreement shall be effective as of January 1, 1999 on the earlier of the date the Borrowers provide such written consent of Exim to the Lender or the date which is five (5) business days after Exim receives a written request for such consent in the event that Exim does not respond to such request. In the event that the Borrowers fail to obtain and provide such written consent of Exim to the Lender within five (5) days after the execution of this Agreement, this Agreement and the documents executed in connection with this Agreement shall not become effective. In such event, the Lines of Credit shall have matured on December 31, 1998 and the Lender shall have the right to exercise any and all rights available to it under any of the Loan Documents and applicable law.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed, this Agreement under seal as of the date first written above.

WITNESS/ATTEST: BORROWERS:

GSE POWER SYSTEMS, INC.
f/k/a Simulation, Systems & Services
Technologies Company

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Senior Vice President

MSHI, INC.

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Senior Vice President

GSE PROCESS SOLUTIONS, INC.

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Senior Vice President

GUARANTORS:

GSE SYSTEMS, INC.

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Senior Vice President

**GP INTERNATIONAL ENGINEERING
& SIMULATION, INC.**

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Senior Vice President

GP STRATEGIES CORPORATION

By: /S/ SCOTT GREENBERG (SEAL)

Name: Scott Greenberg

Title: Executive Vice President

MANTECH INTERNATIONAL CORPORATION

By: /S/ MATTHEW P. GALASKI (SEAL)

Name: Matthew P. Galaski

Title: Vice President

GSE PROCESS SOLUTIONS B.V.

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Senior Vice President

**GSE PROCESS SOLUTIONS
SINGAPORE (PTE) LIMITED**

By: /S/ CHRISTOPHER M. CARNAVOS (SEAL)

Name: Christopher M. Carnavos

Title: Director

GSE PROCESS SOLUTIONS BELGIUM NV

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Director

LENDER: FIRST UNION NATIONAL BANK

By: /S/ DAVID A. DIX (SEAL)

Name: David A. Dix

Title: Vice President

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GSE Power Systems, Inc., f/k/a Simulation, Systems & Services Technologies Company, and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GSE Power Systems, Inc., as _____ of GSE Power Systems, Inc.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of MSHI, Inc., and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of MSHI, Inc., as _____ of MSHI, Inc.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GSE Process Solutions, Inc., and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GSE Process Solutions, Inc., as _____ of GSE Process Solutions, Inc.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GSE Systems, Inc., and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GSE Systems, Inc., as _____ of GSE Systems, Inc.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GP International Engineering & Simulation, Inc., and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GP International Engineering & Simulation, Inc., as _____ of GP International Engineering & Simulation, Inc.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GP Strategies Corporation, and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GP Strategies Corporation, as _____ of GP Strategies Corporation.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of ManTech International Corporation, and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of ManTech International Corporation, as _____ of ManTech International Corporation.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GSE Process Solutions B.V., and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GSE Process Solutions B.V., as _____ of GSE Process Solutions B.V.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GSE Process Solutions Singapore (PTE) Limited, and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GSE Process Solutions Singapore (PTE) Limited, as _____ of GSE Process Solutions Singapore (PTE) Limited.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GSE Process Solutions Belgium NV, and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the

name of GSE Process Solutions Belgium NV, as _____ of GSE Process Solutions Belgium NV.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires: _____

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared David A. Dix, who acknowledged himself to be a Vice President of First Union National Bank, and that he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of First Union National Bank, as a Vice President of First Union National Bank.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires: _____

Exhibit 10.19
UNCONDITIONAL GUARANTY

THIS UNCONDITIONAL GUARANTY (this "Guaranty") is made as of the ____ day of January, 1999 by GSE SYSTEMS, INC., a Delaware corporation (the "Guarantor"), in favor of FIRST UNION NATIONAL BANK (the "Lender," which term shall include any subsequent holder of the Notes (as defined below)).

Recitals

A. \$7,000,000 GSE Power Line of Credit

A-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (the "GSE Power Line of Credit") to GSE Power Systems, Inc. (f/k/a Simulation, Systems & Services Technologies Company), a Delaware corporation ("GSE Power") and MSHI, INC., a Virginia corporation ("MSHI") pursuant to a Letter of Credit, Loan and Security Agreement dated January 30, 1996, as amended from time to time (the "GSE Power Line of Credit Agreement"). The GSE Power Line of Credit is evidenced by a Promissory Note dated January 30, 1996 in the original principal amount of \$7,000,000, as amended from time to time (the "GSE Power Line of Credit Note").

A-2. Pursuant to the GSE Power Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Power and MSHI entered into separate Master Letter of Credit Agreements dated January 30, 1996, in favor of the Lender (the "GSE Power Letter of Credit Agreements").

A-3. The GSE Power Line of Credit Agreement, the GSE Power Line of Credit Note, the GSE Power Letter of Credit Agreements and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Power Line of Credit are collectively called the "GSE Power Loan Documents".

A-4. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Power Letter of Credit Agreements, there is due under the GSE Power Line of Credit principal of Five Million Eight Hundred Thousand Nine Hundred and 00/100 Dollars (\$5,800,900.00) and interest of Twenty-Three Thousand Six Hundred Fifty-Five and 00/100 Dollars (\$23,655.00), plus attorneys' fees and other costs which are payable under the GSE Power Loan Documents.

A-5. Pursuant to Article III of the GSE Power Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Power and MSHI under the GSE Power Line of Credit, there is outstanding Letter of Credit No. SM406588 in the face amount of \$180,243 issued by the Lender for the benefit of Central Trust of China Procurement Department (the "GSE Power Letter of Credit").

B. \$3,000,000 GSE Process Line of Credit

B-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (subsequently reduced to \$3,000,000) (the "GSE Process Line of Credit") to GSE Process Solutions, Inc., a Delaware corporation ("GSE Process"), pursuant to a Letter of Credit, Loan and Security Agreement dated January 31, 1995, as amended and restated by an Amended and Restated Letter of Credit, Loan and Security Agreement dated October 13, 1995, as amended by an Amendment Number One to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated February 23, 1996 ("Amendment Number One") and by an Amendment Number Two to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated November 11, 1997 ("Amendment Number Two") (collectively, the "GSE Process Line of Credit Agreement"). The GSE Process Line of Credit is evidenced by a Promissory Note dated October 13, 1995 in the original principal amount of \$7,000,000 (which replaces a Promissory Note dated January 31, 1995 in the original principal amount of \$6,000,000), as amended by Amendment Number One and by Amendment Number Two (collectively, the "GSE Process Line of Credit Note")

B-2. Pursuant to the GSE Process Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Process entered into a Master Letter of Credit Agreement dated January 31, 1995, in favor of the Lender (the "GSE Process Letter of Credit Agreement").

B-3. The GSE Process Line of Credit Agreement, the GSE Process Line of Credit Note, the GSE Process Letter of Credit Agreement and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Process Line of Credit are collectively called the "GSE Process Loan Documents."

B-4. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Process Letter of Credit Agreement, there is due under the GSE Process Line of Credit principal of Zero and 00/100 Dollars (\$-0-) and interest of One Thousand One Hundred Ten and 52/100 Dollars (\$1,110.52), plus attorneys' fees and other costs which are payable under the GSE Process Loan Documents.

B-5. Pursuant to Article III of the GSE Process Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Process under the GSE Process Line of Credit, there is outstanding Letter of Credit No. 405600 in the face amount of \$630,000 issued by the Lender for the benefit of 8930 Stanford Boulevard, LLC (the "GSE Process Letter of Credit").

C. GSE Power, MSHI and GSE Process are called the "Borrowers." The GSE Power Line of Credit and the GSE Process Line of Credit are called the "Lines of Credit." The GSE Power Letter of Credit and the GSE Process Letter of Credit (and any replacement for such Letter of Credit issued pursuant to the Modification Agreement (as defined below)), together with any other Letters of Credit which may be issued by the Lender pursuant to the terms of the Letter of Credit Agreements, as amended by this Agreement, are collectively called the "Letters of Credit." The GSE Power Line of Credit Note, the GSE Process Line of Credit Note, the GSE Power Letter of Credit Agreements and the GSE Process Letter of Credit Agreement are called the "Notes." The Notes and all other documents evidencing, securing, guaranteeing or otherwise related to the Lines of Credit or the Letters of Credit, including any modifications, restatements, extensions, renewals and replacements thereof, are collectively called the "Loan Documents," which term shall also include the Modification Agreement (as defined below).

D. GSE Power, MSHI, GSE Process, the Guarantor, the Lender and others have entered into a Modification Agreement of even date herewith (the "Modification Agreement"), pursuant to which the Guarantor agreed to execute this Guaranty.

NOW, THEREFORE, WITNESSETH, in consideration of the agreement of the Lender to enter into the Modification Agreement, the Guarantor hereby covenants and agrees as follows:

The undersigned hereby guarantees to the Lender that payment of principal, interest, late charges and any other sums payable under the Notes shall be made according to the terms of the Notes without deduction by reason of any set-off, defense or counterclaim, irrespective of any invalidity therein, the unenforceability thereof or the insufficiency, invalidity or unenforceability of any security therefor, and hereby unconditionally consent to the terms, covenants and conditions of the Notes and the other Loan Documents; and hereby consents, without notice to the undersigned, to the extension, in whole or in part from time to time, whether or not for a term in excess of the original term, of the payment of the Notes; and agrees in case the dates of payment of the Notes shall be extended in whole or in part, that all moneys due thereunder shall be paid when due according to such extension or extensions; and further consents to the waiving or amendment by the Lender of any term, covenant or condition of the Notes or the other Loan Documents or of any indulgence or release granted thereunder; and further consents to any changes or alterations which may be made in any term, covenant or condition of the Loan Documents; and agrees that no change, alteration, modification, renewal, or extension of any of the Loan Documents shall alter or affect the liability of the Guarantor hereunder; and further consents to the release of any collateral the Lender may have under the Loan Documents or to the subordination of the Loan or the collateral securing the Loan to any other debt or security interest under such terms and conditions as the Lender may agree to in its sole and absolute discretion; and further hereby waives presentment, demand of payment from the maker, protest and notice of nonpayment.

If the Borrowers shall fail to make any payment of any sum due under the Notes, or if the Borrowers shall default in any term, covenant or condition of the Loan Documents, then the undersigned hereby unconditionally guarantees to the Lender that the undersigned shall (without first requiring the Lender to proceed against the Borrowers, or any other security) (1) pay to the Lender the entire unpaid balance with interest and costs, and (2) cure any default in any term, covenant or condition of the Loan Documents. The undersigned further agrees to indemnify and hold harmless, the Lender from any loss (including actual attorneys' fees) resulting from any default made at any time by the Borrowers in any terms of the Loan Documents or by the undersigned under the terms of this Guaranty.

The undersigned hereby waives notice of acceptance of this Guaranty by the Lender and any and all notices and demands of every kind and description which may be required to be given by any statute or rule of law, and agree that the liability of the undersigned hereunder shall in no way be affected, diminished or released by any forbearance which may be granted to the Borrowers (or to any successor to it or to any person or entity which shall have assumed the obligations of the Borrowers under the Notes) or by any waiver of any term, covenant or condition in the Loan Documents by the Lender or by reason of any change or modification in any of the Loan Documents, or by the acceptance of additional security or the release by the Lender of any security or of any person or entity primarily or secondarily liable.

The Guarantor agrees that this Guaranty may be enforced by the Lender without the necessity at any time of resorting to or exhausting any other security or collateral and without the necessity at any time of having recourse to the Notes or enforcing any rights it may have against any other person or entity. The undersigned further agrees that nothing herein contained shall prevent the Lender from suing on the Notes or from exercising any other right available to it under the Notes or any of the other Loan Documents or against any other person or entity, and the exercise of any of the aforementioned rights shall not constitute a legal or equitable discharge of the undersigned, it being the purpose and intent of the undersigned that his/her or its obligations under this Guaranty shall be absolute and unconditional under any and all circumstances and s/he or it shall be released therefrom only upon payment of all sums due hereunder and under the Notes and the other Loan Documents.

This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment is rescinded or must otherwise be returned by the Lender upon the insolvency, bankruptcy or reorganization of the Borrowers or otherwise, all as though such payment had not been made.

Any indebtedness of the Borrowers to the Guarantor, now or hereafter existing, is hereby subordinated to the indebtedness of the Borrowers to the Lender. The Guarantor agrees that, after a default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents and until the indebtedness of the Borrowers to the Lender has been paid in full, the Guarantor will not seek, accept, or retain for the Guarantor's own account, any payment from the Borrowers on account of such subordinated debt. Following a default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents, any payments to the Guarantor on account of such subordinated debt shall be collected and received by the Guarantor in trust for the Lender and shall be paid over to the Lender on account of the indebtedness of the Borrowers to the Lender without impairing or releasing the obligations of the Guarantor hereunder. Until ninety-five (95) days after the indebtedness of the Borrowers to the Lender has been paid in full, the Guarantor hereby unconditionally and irrevocably agrees that (1) the Guarantor will not at any time assert against the Borrowers (or the Borrowers' estate in the event the Borrowers becomes bankrupt or becomes the subject of any case or proceeding under the

bankruptcy laws of the United States of America) any right or claim to indemnification, reimbursement, contribution, or payment for or with respect to any and all amounts the Guarantor may pay or be obligated to pay the Lender, including, without limitation, the indebtedness of the Borrowers to the Lender, and any and all obligations which the Guarantor may perform, satisfy, or discharge, under or with respect to this Guaranty and (2) the Guarantor waives and releases all such rights and claims to indemnification, reimbursement, contribution, or payment which the Guarantor may have now or at any time against the Borrowers (or the Borrowers' estate in the event the Borrowers becomes bankrupt or becomes the subject of any case or proceeding under the bankruptcy laws of the United States of America).

The undersigned hereby authorizes any clerk of any court of record or any attorney to enter in any court of competent jurisdiction in the State of Maryland or any other State or Territory of the United States judgment by confession against the undersigned in favor of the Lender for the entire principal amount of the Notes then remaining unpaid with interest thereon, together with attorneys' fees of fifteen percent (15%) and court costs, without stay of execution or right of appeal expressly waiving the benefit of all exemption laws and all irregularity or error in entering said judgment or the execution thereon. No single exercise of the foregoing power to confess judgment shall be deemed to exhaust the power, whether or not any such exercise shall be held by any court to be invalid, voidable or void, but the power shall continue undiminished, and it may be exercised from time to time as often as the Lender shall elect, until such time as the Lender shall have received payment in full of all indebtedness of the Borrowers to the Lender together with costs and indebtedness of the undersigned under this Guaranty. Notwithstanding the Lender's right to obtain a confessed judgment which includes an award of attorneys' fees of 15% of the unpaid principal sum, the Lender agrees that at such time as all indebtedness under the Notes is fully paid, the Lender shall only be entitled to recover its actual attorneys fees and expenses incurred in connection with the Notes.

The undersigned hereby waives all right to trial by jury of all claims, defenses, counterclaims and suits of any kind arising from or relating to this Guaranty. The undersigned acknowledges that s/he or it makes this waiver voluntarily and knowingly after consultation with counsel of his/her or its choice. The undersigned agrees that all such claims, defenses, counterclaims and suits shall be tried before a judge of competent jurisdiction, without a jury.

All laws exempting real or personal property from execution, and inquisition and extension upon any levy on real or personal property are hereby waived and condemnation agreed to, and no benefit of exemption will be claimed under or by virtue of any exemption law now in force or which hereafter may be passed.

The undersigned hereby waives promptness, diligence, notice of acceptance and any other notice with respect to any of the terms, covenants or conditions of this Guaranty or any of the other Loan Documents and any requirement that the Lender protect, secure, perfect or insure any security interest or lien or any property subject thereto or exhaust any right or take any action against the Borrowers or any other person or entity or any collateral.

Notwithstanding anything to the contrary herein, the Lender agrees to notify the undersigned upon the occurrence of an Event of Default (as defined in the Modification Agreement).

The undersigned hereby requests the Lender, if it wishes to send any notice to the undersigned, although all notices and demands have been waived except as set forth in the immediately preceding paragraph, to send such notice to the undersigned at 9189 Red Branch Road, Columbia, Maryland 21045, Attention: Stephen J. Fogarty.

The undersigned hereby acknowledges, consents and agrees (1) that the provisions of this Guaranty and the rights of all parties mentioned herein shall be governed by the laws of the State of Maryland and interpreted and construed in accordance with such laws (excluding Maryland conflict of laws) and (2) that the United States District Court for the District of Maryland and any court of competent jurisdiction of the State of Maryland shall have jurisdiction in any proceeding instituted to enforce this Guaranty, and any objections to venue are hereby waived.

A default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents shall constitute and be deemed a default under this Guaranty.

Upon a default under this Guaranty, including the expiration of any applicable grace or cure periods, the Lender may, at its option and without notice or demand, declare an amount equal to the remainder of the Borrowers' obligations under the Loan Documents to be immediately due and payable by the Guarantor, whether or not the same are due and payable by the Borrowers at that time. The books and records of the Lender showing the amount due by the Borrowers shall be binding upon the Guarantor for the purpose of establishing such items and shall be prima facie proof thereof. The Guarantor agrees to pay the Lender's actual attorneys' fees and all other costs and expenses which may be incurred by the Lender in the enforcement of this Guaranty, whether or not suit is filed.

The rights, powers, privileges and discretions (the "rights") to which the Lender may be entitled hereunder shall inure to the benefit of its successors and assigns. All the rights of the Lender are cumulative and not alternative and may be enforced successively or concurrently. Failure of the Lender to exercise any of its rights shall not be deemed a waiver thereof and no waiver of any of its rights shall be deemed to apply to any other rights nor shall it be effective unless in writing and signed by the Lender. The terms, covenants and conditions of or imposed upon the undersigned herein shall be binding upon his/her or its personal representatives, successors and assigns.

In case any provision (or any part of any provision) contained in this Guaranty shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision (or remaining part of the affected provision) of this Guaranty but this Guaranty shall be construed as if such invalid, illegal or unenforceable provision (or part thereof) had never

been contained herein but only to the extent it is invalid, illegal or unenforceable.

This Guaranty replaces and supercedes all prior guaranties made by the undersigned.

Time is of the essence.

IN WITNESS WHEREOF, the undersigned has executed this Guaranty under seal effective as of the date first above written.

WITNESS/ATTEST:

GSE SYSTEMS, INC.

By: /S/ STEPHEN J. FOGARTY (SEAL)

Name: Stephen J. Fogarty

Title: Senior Vice President

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GSE Systems, Inc., and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GSE Systems, Inc., as _____ of GSE Systems, Inc.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public My Commission expires:

Exhibit 10.20

UNCONDITIONAL GUARANTY

THIS UNCONDITIONAL GUARANTY (this "Guaranty") is made as of the ____ day of January, 1999 by GP STRATEGIES CORPORATION, a Delaware corporation (the "Guarantor"), in favor of FIRST UNION NATIONAL BANK (the "Lender," which term shall include any subsequent holder of the Notes (as defined below)).

Recitals

A. \$7,000,000 GSE Power Line of Credit

A-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (the "GSE Power Line of Credit") to GSE Power Systems, Inc. (f/k/a Simulation, Systems & Services Technologies Company), a Delaware corporation ("GSE Power") and MSHI, INC., a Virginia corporation ("MSHI") pursuant to a Letter of Credit, Loan and Security Agreement dated January 30, 1996, as amended from time to time (the "GSE Power Line of Credit Agreement"). The GSE Power Line of Credit is evidenced by a Promissory Note dated January 30, 1996 in the original principal amount of \$7,000,000, as amended from time to time (the "GSE Power Line of Credit Note").

A-2. Pursuant to the GSE Power Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Power and MSHI entered into separate Master Letter of Credit Agreements dated January 30, 1996, in favor of the Lender (the "GSE Power Letter of Credit Agreements").

A-3. The GSE Power Line of Credit Agreement, the GSE Power Line of Credit Note, the GSE Power Letter of Credit Agreements and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Power Line of Credit are collectively called the "GSE Power Loan Documents".

A-4. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Power Letter of Credit Agreements, there is due under the GSE Power Line of Credit principal of Five Million Eight Hundred Thousand Nine Hundred and 00/100 Dollars (\$5,800,900.00) and interest of Twenty-Three Thousand Six Hundred Fifty-Five and 00/100 Dollars (\$23,655.00), plus attorneys' fees and other costs which are payable under the GSE Power Loan Documents.

A-5. Pursuant to Article III of the GSE Power Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Power and MSHI under the GSE Power Line of Credit, there is outstanding Letter of Credit No. SM406588 in the face amount of \$180,243 issued by the Lender for the benefit of Central Trust of China Procurement Department (the "GSE Power Letter of Credit").

B. \$3,000,000 GSE Process Line of Credit

B-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (subsequently reduced to \$3,000,000) (the "GSE Process Line of Credit") to GSE Process Solutions, Inc., a Delaware corporation ("GSE Process"), pursuant to a Letter of Credit, Loan and Security Agreement dated January 31, 1995, as amended and restated by an Amended and Restated Letter of Credit, Loan and Security Agreement dated October 13, 1995, as amended by an Amendment Number One to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated February 23, 1996 ("Amendment Number One") and by an Amendment Number Two to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated November 11, 1997 ("Amendment Number Two") (collectively, the "GSE Process Line of Credit Agreement"). The GSE Process Line of Credit is evidenced by a Promissory Note dated October 13, 1995 in the original principal amount of \$7,000,000 (which replaces a Promissory Note dated January 31, 1995 in the original principal amount of \$6,000,000), as amended by Amendment Number One and by Amendment Number Two (collectively, the "GSE Process Line of Credit Note").

B-2. Pursuant to the GSE Process Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Process entered into a Master Letter of Credit Agreement dated January 31, 1995, in favor of the Lender (the "GSE Process Letter of Credit Agreement").

B-3. The GSE Process Line of Credit Agreement, the GSE Process Line of Credit Note, the GSE Process Letter of Credit Agreement and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Process Line of Credit are collectively called the "GSE Process Loan Documents."

B-4. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Process Letter of Credit Agreement, there is due under the GSE Process Line of Credit principal of Zero and 00/100 Dollars (\$-0-) and interest of One Thousand One Hundred Ten and 52/100 Dollars (\$1,110.52), plus attorneys' fees and other costs which are payable under the GSE Process Loan Documents.

B-5. Pursuant to Article III of the GSE Process Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Process under the GSE Process Line of Credit, there is outstanding Letter of Credit No. 405600 in the face amount of \$630,000 issued by the Lender for the benefit of 8930 Stanford Boulevard, LLC (the "GSE Process Letter of Credit").

C. GSE Power, MSHI and GSE Process are called the "Borrowers." The GSE Power Line of Credit and the GSE Process Line of Credit are called the "Lines of Credit." The GSE Power Letter of Credit and the GSE Process Letter of Credit (and any replacement for such Letter of Credit issued pursuant to the Modification Agreement (as defined below)), together with any other Letters of Credit which may be issued by the Lender pursuant to the terms of the Letter of Credit Agreements, as amended by this Agreement, are collectively called the "Letters of Credit." The GSE Power Line of Credit Note, the GSE Process Line of Credit Note, the GSE Power Letter of Credit Agreements and the GSE Process Letter of Credit Agreement are called the "Notes." The Notes and all other documents evidencing, securing, guaranteeing or otherwise related to the Lines of Credit or the Letters of Credit, including any modifications, restatements, extensions, renewals and replacements thereof, are collectively called the "Loan Documents," which term shall also include the Modification Agreement (as defined below).

D. GSE Power, MSHI, GSE Process, the Guarantor, the Lender and others have entered into a Modification Agreement of even date herewith (the "Modification Agreement"), pursuant to which the Guarantor agreed to execute this Guaranty.

NOW, THEREFORE, WITNESSETH, in consideration of the agreement of the Lender to enter into the Modification Agreement, the Guarantor hereby covenants and agrees as follows:

The undersigned hereby guarantees to the Lender that payment of principal, interest, late charges and any other sums payable under the Notes shall be made according to the terms of the Notes without deduction by reason of any set-off, defense or counterclaim, irrespective of any invalidity therein, the unenforceability thereof or the insufficiency, invalidity or unenforceability of any security therefor, and hereby unconditionally consent to the terms, covenants and conditions of the Notes and the other Loan Documents; and hereby consents, without notice to the undersigned, to the extension, in whole or in part from time to time, whether or not for a term in excess of the original term, of the payment of the Notes; and agrees in case the dates of payment of the Notes shall be extended in whole or in part, that all moneys due thereunder shall be paid when due according to such extension or extensions; and further consents to the waiving or amendment by the Lender of any term, covenant or condition of the Notes or the other Loan Documents or of any indulgence or release granted thereunder; and further consents to any changes or alterations which may be made in any term, covenant or condition of the Loan Documents; and agrees that no change, alteration, modification, renewal, or extension of any of the Loan Documents shall alter or affect the liability of the Guarantor hereunder; and further consents to the release of any collateral the Lender may have under the Loan Documents or to the subordination of the Loan or the collateral securing the Loan to any other debt or security interest under such terms and conditions as the Lender may agree to in its sole and absolute discretion; and further hereby waives presentment, demand of payment from the maker, protest and notice of nonpayment.

If the Borrowers shall fail to make any payment of any sum due under the Notes, or if the Borrowers shall default in any term, covenant or condition of the Loan Documents, then the undersigned hereby unconditionally guarantees to the Lender that the undersigned shall (without first requiring the Lender to proceed against the Borrowers, or any other security) (1) pay to the Lender the entire unpaid balance with interest and costs, and (2) cure any default in any term, covenant or condition of the Loan Documents. The undersigned further agrees to indemnify and hold harmless, the Lender from any loss (including actual attorneys' fees) resulting from any default made at any time by the Borrowers in any terms of the Loan Documents or by the undersigned under the terms of this Guaranty.

The undersigned hereby waives notice of acceptance of this Guaranty by the Lender and any and all notices and demands of every kind and description which may be required to be given by any statute or rule of law, and agree that the liability of the undersigned hereunder shall in no way be affected, diminished or released by any forbearance which may be granted to the Borrowers (or to any successor to it or to any person or entity which shall have assumed the obligations of the Borrowers under the Notes) or by any waiver of any term, covenant or condition in the Loan Documents by the Lender or by reason of any change or modification in any of the Loan Documents, or by the acceptance of additional security or the release by the Lender of any security or of any person or entity primarily or secondarily liable.

The Guarantor agrees that this Guaranty may be enforced by the Lender without the necessity at any time of resorting to or exhausting any other security or collateral and without the necessity at any time of having recourse to the Notes or enforcing any rights it may have against any other person or entity. The undersigned further agrees that nothing herein contained shall prevent the Lender from suing on the Notes or from exercising any other right available to it under the Notes or any of the other Loan Documents or against any other person or entity, and the exercise of any of the aforementioned rights shall not constitute a legal or equitable discharge of the undersigned, it being the purpose and intent of the undersigned that his/her or its obligations under this Guaranty shall be absolute and unconditional under any and all circumstances and s/he or it shall be released therefrom only upon payment of all sums due hereunder and under the Notes and the other Loan Documents.

This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment is rescinded or must otherwise be returned by the Lender upon the insolvency, bankruptcy or reorganization of the Borrowers or otherwise, all as though such payment had not been made.

Any indebtedness of the Borrowers to the Guarantor, now or hereafter existing, is hereby subordinated to the indebtedness of the Borrowers to the Lender. The Guarantor agrees that, after a default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents and until the indebtedness of the Borrowers to the Lender has been paid in full, the Guarantor will not seek, accept, or retain for the Guarantor's own account, any payment from the Borrowers on account of such subordinated debt. Following a default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents, any payments to the Guarantor on account of such subordinated debt shall be collected and received by the Guarantor in trust for the Lender and shall be paid over to the Lender on account of the indebtedness of the Borrowers to the Lender without impairing or releasing the obligations of the Guarantor hereunder. Until ninety-five (95) days after the indebtedness of the Borrowers to the Lender has been paid in full, the Guarantor hereby unconditionally and irrevocably agrees that (1) the Guarantor will not at any time assert against the Borrowers (or the Borrowers' estate in the event the Borrowers becomes bankrupt or becomes the subject of any case or proceeding under the

bankruptcy laws of the United States of America) any right or claim to indemnification, reimbursement, contribution, or payment for or with respect to any and all amounts the Guarantor may pay or be obligated to pay the Lender, including, without limitation, the indebtedness of the Borrowers to the Lender, and any and all obligations which the Guarantor may perform, satisfy, or discharge, under or with respect to this Guaranty and (2) the Guarantor waives and releases all such rights and claims to indemnification, reimbursement, contribution, or payment which the Guarantor may have now or at any time against the Borrowers (or the Borrowers' estate in the event the Borrowers becomes bankrupt or becomes the subject of any case or proceeding under the bankruptcy laws of the United States of America).

The undersigned hereby authorizes any clerk of any court of record or any attorney to enter in any court of competent jurisdiction in the State of Maryland or any other State or Territory of the United States judgment by confession against the undersigned in favor of the Lender for the entire principal amount of the Notes then remaining unpaid with interest thereon, together with attorneys' fees of fifteen percent (15%) and court costs, without stay of execution or right of appeal expressly waiving the benefit of all exemption laws and all irregularity or error in entering said judgment or the execution thereon. No single exercise of the foregoing power to confess judgment shall be deemed to exhaust the power, whether or not any such exercise shall be held by any court to be invalid, voidable or void, but the power shall continue undiminished, and it may be exercised from time to time as often as the Lender shall elect, until such time as the Lender shall have received payment in full of all indebtedness of the Borrowers to the Lender together with costs and indebtedness of the undersigned under this Guaranty. Notwithstanding the Lender's right to obtain a confessed judgment which includes an award of attorneys' fees of 15% of the unpaid principal sum, the Lender agrees that at such time as all indebtedness under the Notes is fully paid, the Lender shall only be entitled to recover its actual attorneys' fees and expenses incurred in connection with the Notes.

The undersigned hereby waives all right to trial by jury of all claims, defenses, counterclaims and suits of any kind arising from or relating to this Guaranty. The undersigned acknowledges that s/he or it makes this waiver voluntarily and knowingly after consultation with counsel of his/her or its choice. The undersigned agrees that all such claims, defenses, counterclaims and suits shall be tried before a judge of competent jurisdiction, without a jury.

All laws exempting real or personal property from execution, and inquisition and extension upon any levy on real or personal property are hereby waived and condemnation agreed to, and no benefit of exemption will be claimed under or by virtue of any exemption law now in force or which hereafter may be passed.

The undersigned hereby waives promptness, diligence, notice of acceptance and any other notice with respect to any of the terms, covenants or conditions of this Guaranty or any of the other Loan Documents and any requirement that the Lender protect, secure, perfect or insure any security interest or lien or any property subject thereto or exhaust any right or take any action against the Borrowers or any other person or entity or any collateral.

Notwithstanding anything to the contrary herein, the Lender agrees to notify the undersigned upon the occurrence of an Event of Default (as defined in the Modification Agreement).

The undersigned hereby requests the Lender, if it wishes to send any notice to the undersigned, although all notices and demands have been waived except as set forth in the immediately preceding paragraph, to send such notice to the undersigned at 9 West 57th Street, Suite 4170, New York, New York, Attention: Andrea D. Kantor, Esquire.

The undersigned hereby acknowledges, consents and agrees (1) that the provisions of this Guaranty and the rights of all parties mentioned herein shall be governed by the laws of the State of Maryland and interpreted and construed in accordance with such laws (excluding Maryland conflict of laws) and (2) that the United States District Court for the District of Maryland and any court of competent jurisdiction of the State of Maryland shall have jurisdiction in any proceeding instituted to enforce this Guaranty, and any objections to venue are hereby waived.

A default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents shall constitute and be deemed a default under this Guaranty.

Upon a default under this Guaranty, including the expiration of any applicable grace or cure periods, the Lender may, at its option and without notice or demand, declare an amount equal to the remainder of the Borrowers' obligations under the Loan Documents to be immediately due and payable by the Guarantor, whether or not the same are due and payable by the Borrowers at that time. The books and records of the Lender showing the amount due by the Borrowers shall be binding upon the Guarantor for the purpose of establishing such items and shall be prima facie proof thereof. The Guarantor agrees to pay the Lender's actual attorneys' fees and all other costs and expenses which may be incurred by the Lender in the enforcement of this Guaranty, whether or not suit is filed.

The rights, powers, privileges and discretions (the "rights") to which the Lender may be entitled hereunder shall inure to the benefit of its successors and assigns. All the rights of the Lender are cumulative and not alternative and may be enforced successively or concurrently. Failure of the Lender to exercise any of its rights shall not be deemed a waiver thereof and no waiver of any of its rights shall be deemed to apply to any other rights nor shall it be effective unless in writing and signed by the Lender. The terms, covenants and conditions of or imposed upon the undersigned herein shall be binding upon his/her or its personal representatives, successors and assigns.

In case any provision (or any part of any provision) contained in this Guaranty shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision (or remaining part of the affected provision) of this Guaranty but this Guaranty shall be construed as if such invalid, illegal or unenforceable provision (or part thereof) had never

been contained herein but only to the extent it is invalid, illegal or unenforceable.

Notwithstanding anything to the contrary contained herein, the undersigned's liability under this Guaranty shall be limited to \$1,500,000 (subject to increase as set forth in the immediately succeeding paragraph) of the principal and interest due under the Notes (including any amounts which may be or become due upon a draw under any Letters of Credit), which amount shall not be reduced by any payments from the Borrowers, any other guarantor or any other source unless and until the outstanding principal and interest due under the Notes is less than \$1,500,000 (or \$1,500,000 plus the Increased Amount (as defined in the immediately succeeding paragraph as applicable)). There shall be no limit on the undersigned's liability for costs of collection incurred by the Lender to enforce this Guaranty. The undersigned agrees to pay the Lender's actual attorneys' fees and all other costs and expenses that may be incurred by the Lender in the enforcement of this Guaranty, whether or not suit is filed. This limitation on liability is not intended and shall not in any way be construed to require the Lender to pursue its remedies against the Borrowers, any other guarantor or any collateral before exercising its remedies against the undersigned. Notwithstanding the foregoing, the Lender agrees that at such time as the undersigned has paid to the Lender such \$1,500,000 (or \$1,500,000 plus the Increased Amount (as defined in the immediately succeeding paragraph) as applicable) plus all actual attorneys' fees and all other costs and expenses of collection incurred by the Lender as of the date the undersigned makes such payment to the Lender, the undersigned shall have no further liability for any remaining indebtedness due under the Notes or any attorneys' fees or costs and expenses incurred by the Lender after the date the undersigned makes such payment to the Lender, provided that such agreement shall be null and void if the Lender is required by a court of competent jurisdiction under a final non-appealable order to return all or any portion of such payment to the undersigned, a trustee in bankruptcy, a receiver or any other third party, as a preference, fraudulent conveyance or for any other reason under any applicable federal or state law.

Notwithstanding the foregoing, the liability of the undersigned shall increase from \$1,500,000 to \$1,500,000 plus an amount equal to fifty percent (50%) of any amounts drawn by the beneficiary of Letter of Credit No. 405600 and/or any replacement for such Letter of Credit issued pursuant to the Modification Agreement on or prior to their respective expiration dates (the "Increased Amount"). Such increases shall be effective immediately and automatically upon any such draw(s).

This Guaranty replaces and supercedes all prior guaranties made by the undersigned.

Time is of the essence.

IN WITNESS WHEREOF, the undersigned has executed this Guaranty under seal effective as of the date first above written.

WITNESS/ATTEST:

GP STRATEGIES CORPORATION

By: /s/ SCOTT GREENBERG (SEAL)

Name: Scott Greenberg

Title: Executive Vice President

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of GP Strategies Corporation, and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of GP Strategies Corporation, as _____ of GP Strategies Corporation.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public

My Commission expires:

Exhibit 10.21

UNCONDITIONAL GUARANTY

THIS UNCONDITIONAL GUARANTY (this "Guaranty") is made as of the ____ day of January, 1999_ by MANTECH INTERNATIONAL CORPORATION, a New Jersey corporation (the "Guarantor"), in favor of FIRST UNION NATIONAL BANK (the "Lender," which term shall include any subsequent holder of the Notes (as defined below)).

Recitals

A. \$7,000,000 GSE Power Line of Credit

A-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (the "GSE Power Line of Credit") to GSE Power Systems, Inc. (f/k/a Simulation, Systems & Services Technologies Company), a Delaware corporation ("GSE Power") and MSHI, INC., a Virginia corporation ("MSHI") pursuant to a Letter of Credit, Loan and Security Agreement dated January 30, 1996, as amended from time to time (the "GSE Power Line of Credit Agreement"). The GSE Power Line of Credit is evidenced by a Promissory Note dated January 30, 1996 in the original principal amount of \$7,000,000, as amended from time to time (the "GSE Power Line of Credit Note").

A-2. Pursuant to the GSE Power Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Power and MSHI entered into separate Master Letter of Credit Agreements dated January 30, 1996, in favor of the Lender (the "GSE Power Letter of Credit Agreements").

A-3. The GSE Power Line of Credit Agreement, the GSE Power Line of Credit Note, the GSE Power Letter of Credit Agreements and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Power Line of Credit are collectively called the "GSE Power Loan Documents".

A-4. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Power Letter of Credit Agreements, there is due under the GSE Power Line of Credit principal of Five Million Eight Hundred Thousand Nine Hundred and 00/100 Dollars (\$5,800,900.00) and interest of Twenty-Three Thousand Six Hundred Fifty-Five and 00/100 Dollars (\$23,655.00), plus attorneys' fees and other costs which are payable under the GSE Power Loan Documents.

A-5. Pursuant to Article III of the GSE Power Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Power and MSHI under the GSE Power Line of Credit, there is outstanding Letter of Credit No. SM406588 in the face amount of \$180,243 issued by the Lender for the benefit of Central Trust of China Procurement Department (the "GSE Power Letter of Credit").

B. \$3,000,000 GSE Process Line of Credit

B-1. The Lender extended a line of credit in the original principal amount of \$7,000,000 (subsequently reduced to \$3,000,000) (the "GSE Process Line of Credit") to GSE Process Solutions, Inc., a Delaware corporation ("GSE Process"), pursuant to a Letter of Credit, Loan and Security Agreement dated January 31, 1995, as amended and restated by an Amended and Restated Letter of Credit, Loan and Security Agreement dated October 13, 1995, as amended by an Amendment Number One to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated February 23, 1996 ("Amendment Number One") and by an Amendment Number Two to Amended and Restated Letter of Credit, Loan and Security Agreement and Promissory Note dated November 11, 1997 ("Amendment Number Two") (collectively, the "GSE Process Line of Credit Agreement"). The GSE Process Line of Credit is evidenced by a Promissory Note dated October 13, 1995 in the original principal amount of \$7,000,000 (which replaces a Promissory Note dated January 31, 1995 in the original principal amount of \$6,000,000), as amended by Amendment Number One and by Amendment Number Two (collectively, the "GSE Process Line of Credit Note")

B-2. Pursuant to the GSE Process Line of Credit Agreement, the Lender also agreed to issue from time to time, subject to the provisions thereof, letters of credit. In connection therewith, GSE Process entered into a Master Letter of Credit Agreement dated January 31, 1995, in favor of the Lender (the "GSE Process Letter of Credit Agreement").

B-3. The GSE Process Line of Credit Agreement, the GSE Process Line of Credit Note, the GSE Process Letter of Credit Agreement and all other documents evidencing, securing, guaranteeing or otherwise related to the GSE Process Line of Credit are collectively called the "GSE Process Loan Documents."

B-4. As of December 18, 1998, exclusive of any amounts which may become due in connection with the GSE Process Letter of Credit Agreement, there is due under the GSE Process Line of Credit principal of Zero and 00/100 Dollars (\$-0-) and interest of One Thousand One Hundred Ten and 52/100 Dollars (\$1,110.52), plus attorneys' fees and other costs which are payable under the GSE Process Loan Documents.

B-5. Pursuant to Article III of the GSE Process Line of Credit Agreement, and included within the maximum amount available to be borrowed by GSE Process under the GSE Process Line of Credit, there is outstanding Letter of Credit No. 405600 in the face amount of \$630,000 issued by the Lender for the benefit of 8930 Stanford Boulevard, LLC (the "GSE Process Letter of Credit").

C. GSE Power, MSHI and GSE Process are called the "Borrowers." The GSE Power Line of Credit and the GSE Process Line of Credit are called the "Lines of Credit." The GSE Power Letter of Credit and the GSE Process Letter of Credit (and any replacement for such Letter of Credit issued pursuant to the Modification Agreement (as defined below)), together with any other Letters of Credit which may be issued by the Lender pursuant to the terms of the Letter of Credit Agreements, as amended by this Agreement, are collectively called the "Letters of Credit." The GSE Power Line of Credit Note, the GSE Process Line of Credit Note, the GSE Power Letter of Credit Agreements and the GSE Process Letter of Credit Agreement are called the "Notes." The Notes and all other documents evidencing, securing, guaranteeing or otherwise related to the Lines of Credit or the Letters of Credit, including any modifications, restatements, extensions, renewals and replacements thereof, are collectively called the "Loan Documents," which term shall also include the Modification Agreement (as defined below).

D. GSE Power, MSHI, GSE Process, the Guarantor, the Lender and others have entered into a Modification Agreement of even date herewith (the "Modification Agreement"), pursuant to which the Guarantor agreed to execute this Guaranty.

NOW, THEREFORE, WITNESSETH, in consideration of the agreement of the Lender to enter into the Modification Agreement, the Guarantor hereby covenants and agrees as follows:

The undersigned hereby guarantees to the Lender that payment of principal, interest, late charges and any other sums payable under the Notes shall be made according to the terms of the Notes without deduction by reason of any set-off, defense or counterclaim, irrespective of any invalidity therein, the unenforceability thereof or the insufficiency, invalidity or unenforceability of any security therefor, and hereby unconditionally consent to the terms, covenants and conditions of the Notes and the other Loan Documents; and hereby consents, without notice to the undersigned, to the extension, in whole or in part from time to time, whether or not for a term in excess of the original term, of the payment of the Notes; and agrees in case the dates of payment of the Notes shall be extended in whole or in part, that all moneys due thereunder shall be paid when due according to such extension or extensions; and further consents to the waiving or amendment by the Lender of any term, covenant or condition of the Notes or the other Loan Documents or of any indulgence or release granted thereunder; and further consents to any changes or alterations which may be made in any term, covenant or condition of the Loan Documents; and agrees that no change, alteration, modification, renewal, or extension of any of the Loan Documents shall alter or affect the liability of the Guarantor hereunder; and further consents to the release of any collateral the Lender may have under the Loan Documents or to the subordination of the Loan or the collateral securing the Loan to any other debt or security interest under such terms and conditions as the Lender may agree to in its sole and absolute discretion; and further hereby waives presentment, demand of payment from the maker, protest and notice of nonpayment.

If the Borrowers shall fail to make any payment of any sum due under the Notes, or if the Borrowers shall default in any term, covenant or condition of the Loan Documents, then the undersigned hereby unconditionally guarantees to the Lender that the undersigned shall (without first requiring the Lender to proceed against the Borrowers, or any other security) (1) pay to the Lender the entire unpaid balance with interest and costs, and (2) cure any default in any term, covenant or condition of the Loan Documents. The undersigned further agrees to indemnify and hold harmless, the Lender from any loss (including actual attorneys' fees) resulting from any default made at any time by the Borrowers in any terms of the Loan Documents or by the undersigned under the terms of this Guaranty.

The undersigned hereby waives notice of acceptance of this Guaranty by the Lender and any and all notices and demands of every kind and description which may be required to be given by any statute or rule of law, and agree that the liability of the undersigned hereunder shall in no way be affected, diminished or released by any forbearance which may be granted to the Borrowers (or to any successor to it or to any person or entity which shall have assumed the obligations of the Borrowers under the Notes) or by any waiver of any term, covenant or condition in the Loan Documents by the Lender or by reason of any change or modification in any of the Loan Documents, or by the acceptance of additional security or the release by the Lender of any security or of any person or entity primarily or secondarily liable.

The Guarantor agrees that this Guaranty may be enforced by the Lender without the necessity at any time of resorting to or exhausting any other security or collateral and without the necessity at any time of having recourse to the Notes or enforcing any rights it may have against any other person or entity. The undersigned further agrees that nothing herein contained shall prevent the Lender from suing on the Notes or from exercising any other right available to it under the Notes or any of the other Loan Documents or against any other person or entity, and the exercise of any of the aforementioned rights shall not constitute a legal or equitable discharge of the undersigned, it being the purpose and intent of the undersigned that his/her or its obligations under this Guaranty shall be absolute and unconditional under any and all circumstances and s/he or it shall be released therefrom only upon payment of all sums due hereunder and under the Notes and the other Loan Documents.

This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment is rescinded or must otherwise be returned by the Lender upon the insolvency, bankruptcy or reorganization of the Borrowers or otherwise, all as though such payment had not been made.

Any indebtedness of the Borrowers to the Guarantor, now or hereafter existing, is hereby subordinated to the indebtedness of the Borrowers to the Lender. The Guarantor agrees that, after a default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents and until the indebtedness of the Borrowers to the Lender has been paid in full, the Guarantor will not seek, accept, or retain for the Guarantor's own account, any payment from the Borrowers on account of such subordinated debt. Following a default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents, any payments to the Guarantor on account of such subordinated debt shall be collected and received by the Guarantor in trust for the Lender and shall be paid over to the Lender on account of the indebtedness of the Borrowers to the Lender without impairing or releasing the obligations of the Guarantor hereunder. Until ninety-five (95) days after the indebtedness of the Borrowers to the Lender has been paid in full, the Guarantor hereby unconditionally and irrevocably agrees that (1) the Guarantor will not at any time assert against the Borrowers (or the Borrowers' estate in the event the Borrowers becomes bankrupt or becomes the subject of any case or proceeding under the

bankruptcy laws of the United States of America) any right or claim to indemnification, reimbursement, contribution, or payment for or with respect to any and all amounts the Guarantor may pay or be obligated to pay the Lender, including, without limitation, the indebtedness of the Borrowers to the Lender, and any and all obligations which the Guarantor may perform, satisfy, or discharge, under or with respect to this Guaranty and (2) the Guarantor waives and releases all such rights and claims to indemnification, reimbursement, contribution, or payment which the Guarantor may have now or at any time against the Borrowers (or the Borrowers' estate in the event the Borrowers becomes bankrupt or becomes the subject of any case or proceeding under the bankruptcy laws of the United States of America).

The undersigned hereby authorizes any clerk of any court of record or any attorney to enter in any court of competent jurisdiction in the State of Maryland or any other State or Territory of the United States judgment by confession against the undersigned in favor of the Lender for the entire principal amount of the Notes then remaining unpaid with interest thereon, together with attorneys' fees of fifteen percent (15%) and court costs, without stay of execution or right of appeal expressly waiving the benefit of all exemption laws and all irregularity or error in entering said judgment or the execution thereon. No single exercise of the foregoing power to confess judgment shall be deemed to exhaust the power, whether or not any such exercise shall be held by any court to be invalid, voidable or void, but the power shall continue undiminished, and it may be exercised from time to time as often as the Lender shall elect, until such time as the Lender shall have received payment in full of all indebtedness of the Borrowers to the Lender together with costs and indebtedness of the undersigned under this Guaranty. Notwithstanding the Lender's right to obtain a confessed judgment which includes an award of attorneys' fees of 15% of the unpaid principal sum, the Lender agrees that at such time as all indebtedness under the Notes is fully paid, the Lender shall only be entitled to recover its actual attorneys' fees and expenses incurred in connection with the Notes.

The undersigned hereby waives all right to trial by jury of all claims, defenses, counterclaims and suits of any kind arising from or relating to this Guaranty. The undersigned acknowledges that s/he or it makes this waiver voluntarily and knowingly after consultation with counsel of his/her or its choice. The undersigned agrees that all such claims, defenses, counterclaims and suits shall be tried before a judge of competent jurisdiction, without a jury.

All laws exempting real or personal property from execution, and inquisition and extension upon any levy on real or personal property are hereby waived and condemnation agreed to, and no benefit of exemption will be claimed under or by virtue of any exemption law now in force or which hereafter may be passed.

The undersigned hereby waives promptness, diligence, notice of acceptance and any other notice with respect to any of the terms, covenants or conditions of this Guaranty or any of the other Loan Documents and any requirement that the Lender protect, secure, perfect or insure any security interest or lien or any property subject thereto or exhaust any right or take any action against the Borrowers or any other person or entity or any collateral.

Notwithstanding anything to the contrary contained herein, the Lender agrees to notify the undersigned upon the occurrence of an Event of Default (as defined in the Modification Agreement).

The undersigned hereby requests the Lender, if it wishes to send any notice to the undersigned, although all notices and demands have been waived except as set forth in the immediately preceding paragraph, to send such notice to the undersigned at 12015 Lee Jackson Highway, 8th Floor, Fairfax, Virginia 22033-3300, Attention: Jodee E. Batdorf, Esquire.

The undersigned hereby acknowledges, consents and agrees (1) that the provisions of this Guaranty and the rights of all parties mentioned herein shall be governed by the laws of the State of Maryland and interpreted and construed in accordance with such laws (excluding Maryland conflict of laws) and (2) that the United States District Court for the District of Maryland and any court of competent jurisdiction of the State of Maryland shall have jurisdiction in any proceeding instituted to enforce this Guaranty, and any objections to venue are hereby waived.

A default (including the expiration of any applicable cure period) in any term, covenant, or condition of the Notes or the other Loan Documents shall constitute and be deemed a default under this Guaranty.

Upon a default under this Guaranty, including the expiration of any applicable grace or cure periods, the Lender may, at its option and without notice or demand, declare an amount equal to the remainder of the Borrowers' obligations under the Loan Documents to be immediately due and payable by the Guarantor, whether or not the same are due and payable by the Borrowers at that time. The books and records of the Lender showing the amount due by the Borrowers shall be binding upon the Guarantor for the purpose of establishing such items and shall be prima facie proof thereof. The Guarantor agrees to pay the Lender's actual attorneys' fees and all other costs and expenses which may be incurred by the Lender in the enforcement of this Guaranty, whether or not suit is filed.

The rights, powers, privileges and discretions (the "rights") to which the Lender may be entitled hereunder shall inure to the benefit of its successors and assigns. All the rights of the Lender are cumulative and not alternative and may be enforced successively or concurrently. Failure of the Lender to exercise any of its rights shall not be deemed a waiver thereof and no waiver of any of its rights shall be deemed to apply to any other rights nor shall it be effective unless in writing and signed by the Lender. The terms, covenants and conditions of or imposed upon the undersigned herein shall be binding upon his/her or its personal representatives, successors and assigns.

In case any provision (or any part of any provision) contained in this Guaranty shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision (or remaining part of the affected provision) of this Guaranty but this Guaranty shall be construed as if such invalid, illegal or unenforceable provision (or part thereof) had never been contained herein but only to the extent it is invalid, illegal or unenforceable.

Notwithstanding anything to the contrary contained herein, the undersigned's liability under this Guaranty shall be limited to \$1,500,000 (subject to increase as set forth in the immediately succeeding paragraph) of the principal and interest due under the Notes (including any amounts which may be or become due upon a draw under any Letters of Credit), which amount shall not be reduced by any payments from the Borrowers, any other guarantor or any other source unless and until the outstanding principal and interest due under the Notes is less than \$1,500,000 (or \$1,500,000 plus the Increased Amount (as defined in the immediately succeeding paragraph) as applicable). There shall be no limit on the undersigned's liability for costs of collection incurred by the Lender to enforce this Guaranty. The undersigned agrees to pay the Lender's actual attorneys' fees and all other costs and expenses that may be incurred by the Lender in the enforcement of this Guaranty, whether or not suit is filed. This limitation on liability is not intended and shall not in any way be construed to require the Lender to pursue its remedies against the Borrowers, any other guarantor or any collateral before exercising its remedies against the undersigned. Notwithstanding the foregoing, the Lender agrees that at such time as the undersigned has paid to the Lender such \$1,500,000 (or \$1,500,000 plus the Increased Amount (as defined in the immediately succeeding paragraph) as applicable) plus all actual attorneys' fees and all other costs and expenses of collection incurred by the Lender as of the date the undersigned makes such payment to the Lender, the undersigned shall have no further liability for any remaining indebtedness due under the Notes or any attorneys' fees or costs and expenses incurred by the Lender after the date the undersigned makes such payment to the Lender, provided that such agreement shall be null and void if the Lender is required by a court of competent jurisdiction under a final non-appealable order to return all or any portion of such payment to the undersigned, a trustee in bankruptcy, a receiver or any other third party, as a preference, fraudulent conveyance or for any other reason under any applicable federal or state law.

Notwithstanding the foregoing, the liability of the undersigned shall increase from \$1,500,000 to \$1,500,000 plus an amount equal to fifty percent (50%) of any amounts drawn by the beneficiary of Letter of Credit No. 405600 and/or any replacement for such Letter of Credit issued pursuant to the Modification Agreement on or prior to their respective expiration dates (the "Increased Amount"). Such increase shall be effective immediately and automatically upon any such draw(s).

This Guaranty replaces and supercedes all prior guaranties made by the undersigned.

Time is of the essence.

IN WITNESS WHEREOF, the undersigned has executed this Guaranty under seal effective as of the date first above written.

WITNESS/ATTEST: MANTECH INTERNATIONAL CORPORATION

By: /S/ MATTHEW P. GALASKI (SEAL)

Name: Matthew P. Galaski

Title: Vice President

STATE OF _____

SS:

CITY/COUNTY OF _____

I HEREBY CERTIFY that on this _____ day of _____, 19____, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be the _____ of ManTech International Corporation, and that (s)he, in such capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained, by signing the name of ManTech International Corporation, as _____ of ManTech International Corporation.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal.

Notary Public

My Commission expires:

EXHIBIT 21.1

**GSE SYSTEMS, INC.
FORM 10-K
For the Year Ended December 31, 1998**

SUBSIDIARIES OF REGISTRANT

The companies listed below are directly or indirectly owned 100% by GSE Systems, Inc. and are included in its consolidated financial statements. GS Information Systems FSC Ltd, GSE Systems International Ltd, MSHI, Inc., GSE Power Systems AB and GSE Process Solutions, Inc. are wholly owned subsidiaries of GSE Systems, Inc. GP International Engineering & Simulation, Inc. and GSE Services Company L.L.C. are wholly owned subsidiaries of GSE Power Systems, Inc. which is a wholly owned subsidiary of MSHI, Inc. GSE Process Solutions B.V. is a wholly owned subsidiary of GSE Process Solutions, Inc. GSE Process Solutions Belgium N.V. and GSE Process Solutions Singapore (Pte) Limited are wholly owned subsidiaries of GSE Process Solutions B.V. 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	Jurisdiction of Organization
----	-----
GS Information Systems FSC Ltd.	Barbados
GSE Systems International Ltd.	State of Delaware
MSHI, Inc.	State of Virginia
GSE Power Systems, Inc.	State of Delaware
GP International Engineering & Simulation, Inc.	State of Delaware
GSE Services Company L.L.C.	State of Delaware
GSE Power Systems AB	Sweden
GSE Process Solutions, Inc.	State of Delaware
GSE Process Solutions B.V.	Netherlands
GSE Process Solutions Belgium N.V.	Belgium
GSE Process Solutions Singapore (Pte) Limited	Singapore

Exhibit 24.1
GSE SYSTEMS, INC.

FORM 10-K

For the Year Ended December 31, 1998

CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to the incorporation by reference in the registration statement of GSE Systems, Inc. on Form S-8 (File No. 333-08805) of our report dated February 24, 1999, on our audits of the consolidated financial statements of GSE Systems, Inc. as of December 31, 1998 and 1997, and for the years ended December 31, 1998, 1997, and 1996, which report is included in this Annual Report on Form 10-K.

PricewaterhouseCoopers, LLP McLean, Virginia
March 29, 1999

EXHIBIT 24.1
GSE SYSTEMS, INC.
9189 Red Branch Road
Columbia, Maryland 21045

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 Christopher M. Carnavos, Jeffery G. Hough and Stephen J. Fogarty, 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 on 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.

Dated: March 26, 1999

<i>Name</i>	<i>Title</i>
<i>/S/ JEROME I. FELDMAN</i> ----- <i>Jerome I. Feldman</i>	<i>Chairman of the Board</i>
<i>/S/ CHRISTOPHER M. CARNAVOS</i> ----- <i>Christopher M. Carnavos</i>	<i>President and Director</i> <i>(Principal Executive Officer)</i>
<i>/S/ JEFFERY G. HOUGH</i> ----- <i>Jeffery G. Hough</i>	<i>Senior Vice President and Chief Financial</i> <i>Officer (Principal Finance and Accounting</i> <i>Officer)</i>
<i>/S/ SHELDON L. GLASHOW</i> ----- <i>Sheldon L. Glashow</i>	<i>Director</i>
<i>/S/ JOHN A. MOORE, JR.</i> ----- <i>John A. Moore, Jr.</i>	<i>Director</i>
<i>/S/ GEORGE J. PEDERSEN</i> ----- <i>George J. Pedersen</i>	<i>Director</i>
<i>/S/ SYLVAN SCHEFLER</i> ----- <i>Sylvan Schefler</i>	<i>Director</i>

ARTICLE 5

CIK: 0000944480

NAME: GSE SYSTEMS, INC.

MULTIPLIER: 1,000

CURRENCY: U.S. Dollars

PERIOD TYPE	12 Mos
FISCAL YEAR END	DEC 31 1998
PERIOD START	JAN 01 1998
PERIOD END	DEC 31 1998
EXCHANGE RATE	1
CASH	2,240
SECURITIES	0
RECEIVABLES	25,308
ALLOWANCES	(882)
INVENTORY	2,892
CURRENT ASSETS	32,362
PP&E	9,618
DEPRECIATION	(6,914)
TOTAL ASSETS	48,743
CURRENT LIABILITIES	28,304
BONDS	0
PREFERRED MANDATORY	0
PREFERRED	0
COMMON	50
OTHER SE	17,039
TOTAL LIABILITY AND EQUITY	48,743
SALES	73,818
TOTAL REVENUES	73,818
CGS	49,814
TOTAL COSTS	49,814
OTHER EXPENSES	22,113
LOSS PROVISION	0
INTEREST EXPENSE	(350)
INCOME PRETAX	2,417
INCOME TAX	(1,020)
INCOME CONTINUING	1,397
DISCONTINUED	0
EXTRAORDINARY	0
CHANGES	0
NET INCOME	1,397
EPS PRIMARY	.28
EPS DILUTED	.27

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