

# **GSE SYSTEMS INC**

# FORM 10-K (Annual Report)

# Filed 04/03/01 for the Period Ending 12/31/00

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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 4/3/2001 For Period Ending 12/31/2000

Address 9189 RED BRANCH ROAD

COLUMBIA, Maryland 21045

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Industry Software & Programming

Sector Technology

Fiscal Year 12/31



#### Exhibit-10.1

#### REPLACEMENT PROMISSORY NOTE

US \$2,100,000 30 March 2001 Columbia, MD

#### THIS INSTRUMENT AND ALL RIGHTS OF THE PARTIES HEREUNDER ARE

SUBJECT TO AND GOVERNED BY THE TERMS AND CONDITIONS OF A SUBORDINATION AND INTERCREDITOR AGREEMENT DATED MARCH 30, 2001, BY AND BETWEEN MANTECH INTERNATIONAL CORPORATION AND NATIONAL BANK OF CANADA. WITHOUT LIMITATION OF THE FOREGOING, ALL RIGHTS OF PAYMENT, LIEN RIGHTS, AND ENFORCEMENT RIGHTS OF THE HOLDER OF THIS INSTRUMENT, ARE EXPRESSLY SUBORDINATED AND SUBJECT TO THE RIGHTS OF NATIONAL BANK OF CANADA, AS PROVIDED IN THE SUBORDINATION AND INTERCREDITOR AGREEMENT.

#### RECITALS:

- A. Reference is made to that certain Secured Promissory Note dated October 2, 2000 in the original principal amount of One Million Eight Hundred Thousand Dollars (US \$1,800,000), made by GSE Systems, Inc., a Delaware corporation, (the "Borrower") payable to the order of ManTech International Corporation, a New Jersey corporation, and its successors and assigns (the "Lender"), as amended and modified pursuant to that certain Allonge and First Modification to Secured Promissory Note dated as of January 25, 2001, increasing the principal amount of the Secured Promissory Note to Two Million One Hundred Thousand Dollars (US \$2,100,000). The Secured Promissory Note, as so amended and modified, is referred to herein as the "Original Note". The aggregate Two Million One Hundred Thousand Dollars (US \$2,100,000) of loans evidenced by the Original Note is referred to herein as the "Loan."
- B. Pursuant to the Original Note, the Loan was secured by the Borrower's equity interest in Avantium International B.V. (formerly known as Avantium B.V.), a private company with limited liability formed under the laws of The Netherlands ("Avantium") (the "Collateral"), which security interest is subordinate to the security interest held by National Bank of Canada, the Borrower's principal lender ("NBOC"), in the Collateral.
- C. In connection with various proposed new credit accommodations from NBOC to the Borrower, NBOC has prohibited any security for the Loan and the Original Note.
- D. The Lender has agreed to release its security interest in any collateral securing the Loan or the Note (including, but not limited to, the Collateral), in order to comply with NBOC's requirement.
- NOW, THEREFORE, for Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Borrower and the Lender agree that this Note is hereby substituted for and replaces the Original Note.
- \*\*\*\*\* FOR VALUE RECEIVED the undersigned Borrower unconditionally promises to pay to the order of the Lender, at the account specified in writing, or at such place in the United States of America as a holder hereof may from time to time direct in writing, in lawful money of the United States of America and in immediately available funds, the principal amount of TWO MILLION ONE HUNDRED THOUSAND DOLLARS (US \$2,100,000), together with all accrued but unpaid interest thereon (the "Note"). The interest rate shall be computed on the actual number of days elapsed (based on a 360-day year of twelve equal months) on the unpaid balance of such principal amount at the rate described below.

Interest shall be at the fluctuating prime rate of interest established and declared by Mellon Bank, N.A. (the "Prime Rate") plus one (1) percentage point per annum, to be paid in lawful money of the United States and in immediately available funds. Interest shall be compounded monthly, based on the Prime Rate in effect on the last day of such month.

The Borrower may borrow under this Note subject to the principal amount of the Note. The Borrower may prepay this Note in whole or in part at any time or from time to time without penalty or premium. Any such prepayment shall first be applied to accrued and unpaid interest, if any, and thereafter to the principal outstanding under this Note.

The Borrower shall repay this Note as follows:

- 1. Payments of accrued interest only shall be due and payable on the first day of each month, commencing on July 1, 2001, and continuing through the Maturity Date (as defined below).
- 2. Twenty-four (24) equal installments of principal shall be due and payable on the first day of each month, commencing on April 1, 2004, and continuing through the Maturity Date.

3. The entire principal balance of this Note, together with all accrued and unpaid interest thereon and other sums payable hereunder, unless sooner accelerated pursuant to the terms of this Note, shall be due and payable in full on April 1, 2006 (the "Maturity Date").

This Note may be convertible, at the Lender's option, in whole or in part, into shares of convertible preferred stock of the Borrower at the rate of One Hundred Dollars (\$100) per share. Such preferred stock is to be convertible into common stock of the Borrower. The other rights and preferences of the preferred stock shall be mutually agreed upon by the Borrower and the Lender. The authorization and/or issuance of such preferred stock, and the common stock issuable upon exercise of the conversion right of such preferred stock, may be subject to the approval of the Borrower's stockholders, if it is determined that such stockholder approval is required.

The Lender hereby releases, discharges and terminates its security interest in any and all collateral security securing the Loan or the Note (including, but not limited to, the Collateral), and releases to the Borrower any and all right, title and interest which the Lender may have acquired in and to such collateral (including, but not limited to, the Collateral), pursuant to the Original Note or otherwise. The Lender agrees to execute such documents, and to take all other actions reasonably requested by the Borrower, to evidence the Lender's release of its security interest in all of such collateral, including, but not limited to, the Collateral.

Upon execution of this Note by the Borrower, the Lender shall return the Original Note to the Borrower, marked "Cancelled."

The Borrower represents and warrants to the Lender (which representations and warranties will be deemed to be repeated by the Borrower on each day on which the Note or other obligation of the Borrower remains outstanding) that:

- (A) It is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware;
- (B) It is duly qualified, in good standing and authorized to do business in each jurisdiction where because of the nature of its activities or properties such qualification is required by applicable laws or the failure to be so qualified could have a material adverse effect on the Borrower;
- (C) It has the power to enter into the Note, to deliver this Note and to perform its obligations under this Note and has taken all necessary action to authorize such execution, delivery and performance;
- (D) The execution, delivery and performance of this Note by the Borrower does not and will not violate or conflict with any law applicable to it, any provision of its organizational documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;
- (E) All governmental and other consents, authorizations, approvals, licenses and orders that are required to have been obtained by it with respect to this Note and the transactions contemplated herein have been obtained and are in full force and effect and all conditions of any such consents, authorizations, approvals, licenses and orders have been complied with;
- (F) Its obligations under this Note constitute its legal, valid and binding obligations, enforceable in accordance with their respective terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law));
- (G) There is not pending or threatened against it any action, suit or proceeding at law or in equity or before any court, tribunal, governmental body, agency or official or any arbitrator that is likely to (1) affect the legality, validity or enforceability against it of this Note or its ability to perform its obligations hereunder, or (2) materially affect its operations, business, property or assets or financial or other condition.

The Borrower covenants to the Lender that, so long as the Borrower has or may have any obligation under this Note:

- (a) Except as expressly set forth herein, this Note shall constitute an unsecured direct, general and unconditional obligation of the Borrower. Notwithstanding anything to the contrary stated herein, this Note is subordinate in payment, priority and collection to the Borrower's obligations to NBOC, the terms of which subordination are set forth in that certain Subordination and Intercreditor Agreement dated as of the date hereof by and between the Lender and NBOC.
- (b) It will maintain in full force and effect and comply with all consents, authorizations, approvals, licenses and orders of any governmental or other authority that are required to be obtained by it with respect to this Note or the transactions contemplated hereby and will use all reasonable efforts to obtain any such consents, authorizations, approvals, licenses and orders that may become necessary in the future;
- (c) It will comply in all material respects with all applicable laws and orders to which it may be subject, if failure so to comply would materially impair its ability to perform its obligations under this Note; and
- (d) It will notify the Lender upon the occurrence of an Event of Default (as defined below).

The occurrence of any of the following events or conditions shall constitute an event of default (each, an "Event of Default") with respect to the

Borrower under this Note:

- (I) Any amounts due under this Note are not paid (i) with respect to principal and/or interest within Ten (10) calendar days after the date when due, or
- (ii) with respect to other amounts within Twenty (20) calendar days after the due date thereof;
- (II) Except as otherwise provided in subsection (I) above, the failure or refusal of the Borrower to properly perform, observe or comply with any condition, obligation, or covenant or agreement to be performed, observed or complied with by the Borrower in this Note, and such failure or refusal continues for a period of Ten (10) calendar days, or for such lesser period as stipulated in this Note after written notice thereof from the Lender;
- (III)A representation made or repeated or deemed to have been made or repeated by the Borrower in this Note proves to have been incorrect or misleading when made or repeated or deemed to have been made or repeated; provided that in the case of a repeated representation, the Borrower shall have a period of Ten (10) calendar days after notice from the Lender to cure such incorrect or misleading representation; or
- (IV) Borrower (1) is dissolved (other than pursuant to a consolidation or merger); (2) becomes insolvent or is unable to pay its debts or fails or admits in writing its inability generally to pay its debts as they become due; (3) makes a general assignment, arrangement or composition with or for the benefit of its creditors; (4) institutes or has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation which is not dismissed, discharged, stayed or restrained within Thirty (30) calendar days of the institution or presentation thereof; (5) has a resolution passed for its winding-up or liquidation (other than pursuant to a consolidation or merger); (6) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets; (7) has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all its assets and such process is not dismissed, discharged, stayed or restrained, in each case within Thirty (30) calendar days thereafter; (8) causes or is subject to any event with respect to it which, under the applicable laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (1) to (7) (inclusive); or (9) takes any corporate action in furtherance of, or otherwise indicates its written consent to, written approval of, or written acquiescence in, any of the foregoing acts.
- (V) The Borrower is a party to any merger or consolidation or transfers all or substantially all its assets to another person or entity without the prior written consent of the Lender and, pursuant to such merger, consolidation or transfer the creditworthiness of the resulting, surviving or transferee entity is weaker than that of the Borrower immediately prior to such action.

Upon the occurrence and during the continuance of an Event of Default, the Lender will have the option, upon notice to the Borrower, of declaring any or all unpaid amounts under the Note, together with unpaid accrued interest thereon to be immediately due and payable.

All payments and repayments shall be made on a day that banks are open for business in the Commonwealth of Virginia (a "Business Day"). If any payment in respect of this Note becomes due on a day that is not a Business Day, such payment shall be made on the next succeeding Business Day, and such extension of the time shall be included in computing interest in connection with such payment.

All payments to the Lender hereunder shall be made by wire transfer to the account specified by the Lender in writing from time to time, in lawful money of the United States of America.

All payments made by the Borrower in respect of principal of, and interest on the Note and all other amounts payable in respect of this Note or otherwise, will be made without set-off, counterclaim or other defense and will be made free and clear of, and without deduction or withholding for, any present or future taxes, levies, imposts, duties, fees, assessments or other charges of whatever nature now or hereafter imposed by any jurisdiction or by any political subdivision or taxing authority thereof or therein and all interest, penalties or similar liabilities with respect thereto (collectively, the "Taxes"). The Borrower shall pay on demand all stamp, documentary and other similar duties and taxes, if any, to which this Note from time to time may be subject to or give rise. If the Borrower is required by applicable law to make any deduction or withholding on any payment as described above in respect of Taxes or otherwise, the Borrower shall: (i) promptly notify the Lender of such occurrence; (ii) pay to the relevant taxation or other authorities the full amount of the deduction or withholding within the time allowed; (iii) furnish to the Lender within Thirty (30) calendar days of such payment, an official receipt from such authorities for all amounts so deducted or withheld; and (iv) pay to the Lender an additional amount so that the Lender receives on the due date of such payment the full amount the Lender would have received had no such deduction or withholding taken place.

The Borrower agrees to pay on demand all of the Lender's costs and expenses, including, without limitation, reasonable attorneys' fees and expenses, in connection with any judgment relating to the collection of any sums due to the Lender and the enforcement or protection of its rights or interests hereunder, whether suit be brought or not.

#### THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF

#### THE COMMONWEALTH OR VIRGINIA, WITHOUT REGARD TO ITS CONFLICTS OF LAW RULES.

Nothing contained herein shall limit or impair the right of the Lender to institute any suit, action, motion or proceeding in any other court of competent jurisdiction, nor shall the taking of any suit, action or proceeding in one or more jurisdictions preclude the taking of proceedings in

any other jurisdiction, whether concurrently or not.

The Borrower may not assign any of its rights or delegate any of its obligations under this Note (or any part thereof) without the prior written consent of the Lender, which consent shall not be unreasonably withheld; provided, however, nothing contained herein shall limit the right of the Lender to assign any of its rights or obligations hereunder.

The Borrower hereby waives diligence, presentment, protest, demand, and notice of every kind and, to the full extent permitted by law, the right to plead any statute of limitations as a defense to any demand hereunder and further agrees to be bound hereby, notwithstanding any extension, modification or waiver by any holder of this Note or upon the discharge or release of any obligor hereunder.

If any clause, provision or section of this Note shall be held illegal or invalid by any court, the illegality or invalidity of such clause, provision or section shall not affect the remainder of this Note, which shall be construed and enforced as if such illegal or invalid clause, provision or section had not been contained in this Note. If any agreement or obligation contained in this Note is held to be in violation of applicable law, then such agreement or obligation shall be deemed to be the agreement or obligation of the Borrower only to the extent permitted by applicable law.

IN WITNESS WHEREOF, the undersigned have caused this Note to be executed as of the date first above written.

BORROWER:		
GSE Systems, Inc.		
	By: Name: Title:	Jeffery G. Hough Senior Vice President
LENDER:		
<b>ManTech International Corporation</b>		
By: Name:		

#### Exhibit 10.2

## SUBORDINATION AND INTERCREDITOR AGREEMENT

THIS SUBORDINATION AND INTERCREDITOR AGREEMENT ("AGREEMENT") is made to be effective as of March 30, 2001, by and between NATIONAL BANK OF CANADA, a Canadian chartered bank ("LENDER"), and MANTECH INTERNATIONAL CORPORATION, a New Jersey corporation ("SUBORDINATING CREDITOR").

#### **RECITALS**

GSE SYSTEMS, INC., a Delaware corporation ("GSE SYSTEMS"), GSE PROCESS SOLUTIONS, INC., a Delaware corporation, and GSE POWER SYSTEMS, INC., a Delaware corporation (together with GSE SYSTEMS, collectively, "BORROWERS"), have obtained various credit accommodations from the LENDER. SUBORDINATING CREDITOR, GP STRATEGIES CORPORATION, a Delaware corporation, GSE SYSTEMS INTERNATIONAL LTD., a Delaware corporation, MSHI, INC., a Virginia corporation, GSE ERUDITE SOFTWARE, INC., a Delaware corporation, GSE SERVICES COMPANY L.L.C., a Delaware limited liability company, GP INTERNATIONAL ENGINEERING & SIMULATION, INC., a Delaware corporation (collectively, "GUARANTORS"), have agreed to guarantee to the LENDER the repayment and performance of the subject credit accommodations. Hereafter, the BORROWERS and the GUARANTORS (other than the SUBORDINATING CREDITOR and GP STRATEGIES CORPORATION) are collectively referred to as the "OBLIGORS."

The SUBORDINATING CREDITOR has extended, or has committed to extend, a loan to GSE SYSTEMS. The SUBORDINATING CREDITOR owns a substantial ownership interest in GSE SYSTEMS and derives substantial direct and indirect benefits from the credit facility extended by the LENDER to GSE SYSTEMS and the other BORROWERS.

The LENDER is unwilling to continue to provide the requested credit accommodations to the BORROWERS unless the SUBORDINATING CREDITOR agrees to the terms and conditions of this AGREEMENT. In order to induce the LENDER to continue to extend the subject credit accommodations to the BORROWERS, the SUBORDINATING CREDITOR has agreed to be bound by the terms of this AGREEMENT.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Section 1. Definitions. In addition to the terms defined in the recitals hereto, the following terms shall have the following meanings for the purposes of this AGREEMENT:

Section 1.1. Collection Action. The term "COLLECTION ACTION" means any of the following actions by the SUBORDINATING CREDITOR: (a) ask, demand, sue for, take or receive from or on behalf of any of the OBLIGORS, by set-off or in any other manner, the whole or any part of any monies which may now or hereafter be owing by any of the OBLIGORS to the SUBORDINATING CREDITOR on the SUBORDINATED DEBT; (b) initiate or participate with others in any suit, action or proceeding against any of the OBLIGORS to enforce payment of or to collect the whole or any part of the SUBORDINATED DEBT; (c) ask, demand, take or receive any security for any of the SUBORDINATED DEBT; or (d) initiate or participate with others in any action to realize upon any of the assets of any of the OBLIGORS. The mere acceleration of the SUBORDINATED DEBT by the SUBORDINATING CREDITOR shall not in and of itself constitute a COLLECTION ACTION, provided that the SUBORDINATING CREDITOR does not institute, pursue or take any enforcement or collection actions with respect thereto, including without limitation the institution of any proceedings to collect or realize upon the SUBORDINATED DEBT or against any of the OBLIGORS or the assets of any of the OBLIGORS, or require that payments be made as a result of such acceleration.

Section 1.2. Default. The term "DEFAULT" has the meaning given that term in the LOAN AND SECURITY AGREEMENT.

Section 1.3. Event Of Default. The term "EVENT OF DEFAULT" has the meaning given that term in the LOAN AND SECURITY AGREEMENT.

Section 1.4. Lender's Documents. The term "LENDER'S DOCUMENTS" means the LOAN AND SECURITY AGREEMENT and all documents and writings defined therein as the "LOAN DOCUMENTS."

Section 1.5. Loan And Security Agreement. The term "LOAN AND SECURITY AGREEMENT" means the Loan And Security Agreement dated March 23, 2000, by and between the LENDER and the BORROWERS, as amended.

Section 1.6. Senior Debt. The term "SENIOR DEBT" means all indebtedness, obligations and liabilities (including interest accruing on such debt after any of the BORROWERS or GUARANTORS becomes subject to a bankruptcy proceeding, whether or not such interest is enforceable against such BORROWER or GUARANTOR or recoverable against the bankruptcy estate) now or hereafter owed by any of the BORROWERS or GUARANTORS to the LENDER, whether absolute or contingent, direct or indirect, joint or several, contemplated or uncontemplated, secured or unsecured, including but not limited to all principal, interest, fees, charges, reimbursements, advancements, escrows, overdrafts, and other indebtedness, and all "OBLIGATIONS," as such term is defined in the LOAN AND SECURITY AGREEMENT, and all obligations and duties of indemnification, reimbursement, suretyship, or guaranty, and any replacements, renewals or refinancings thereof.

Section 1.7. Subordinated Debt. The term "SUBORDINATED DEBT" means all indebtedness, obligations and liabilities now or hereafter owed by any of the OBLIGORS to the SUBORDINATING CREDITOR under or in connection with the SUBORDINATED NOTE or any of the SUBORDINATING CREDITOR'S DOCUMENTS, and any replacements, renewals, or refinancing thereof, whether absolute or contingent, direct or indirect, joint or several, contemplated or uncontemplated, secured or unsecured.

Section 1.8. Subordinated Note. The term "SUBORDINATED NOTE" means the Replacement Promissory Note dated March 30, 2001, in the originally stated principal amount of Two Million One Hundred Thousand Dollars (\$2,100,000.00) from GSE SYSTEMS, as the maker thereof, which is payable to the order of the SUBORDINATING CREDITOR.

Section 1.9. Subordinating Creditor's Documents. The term "SUBORDINATING CREDITOR'S DOCUMENTS" means all documents, writings, or instruments evidencing, securing or otherwise documenting the whole or any part of the SUBORDINATED DEBT, and all amendments, modifications, replacements and substitutions thereto. Without limitation of the foregoing, such term shall include the SUBORDINATED NOTE.

Section 1.10. Subordination Notice. The term "SUBORDINATION NOTICE" means the providing by the LENDER to the SUBORDINATING CREDITOR of written notice of the occurrence of a DEFAULT or an EVENT OF DEFAULT.

Section 2. Subordination: Standby, The SUBORDINATING CREDITOR agrees that payment of the SUBORDINATED DEBT is expressly subordinated to the prior and indefeasible payment in full in cash of all SENIOR DEBT, upon the terms and subject to the conditions contained in this AGREEMENT. Except as expressly authorized pursuant to Section 3 of this AGREEMENT, the SUBORDINATING CREDITOR will not take any COLLECTION ACTION unless and until the SENIOR DEBT has been fully and indefeasibly paid in full in cash and there is no obligation, commitment or agreement under which the LENDER is required to or may make loans or provide other financial accommodations to or for the benefit of any of the OBLIGORS; provided, however, that nothing in this Section 2 shall limit or restrict the SUBORDINATING CREDITOR from filing a claim (or taking any action necessary to achieve allowance of its claim) or, subject to the prior written consent of the LENDER, otherwise preserving its rights, if any of the OBLIGORS shall be the subject of a bankruptcy proceeding not commenced by SUBORDINATING CREDITOR. Any liens, security interests, mortgages, pledges of or into any of the assets of any of the OBLIGORS in favor of or for the benefit of the SUBORDINATING CREDITOR, both now existing or arising in the future are hereby expressly made subordinate and junior in priority and right of enforcement to any liens, security interests, mortgages or pledges of or into any of the assets of any of the OBLIGORS both now existing or arising in the future, securing any of the SENIOR DEBT, regardless of the record priority or dates of any public filings or documents pertaining thereto or whether any or all of the security interests and liens securing any of the SENIOR DEBT are unperfected or avoidable. The SUBORDINATING CREDITOR represents and warrants that, as of the date hereof, the SUBORDINATED DEBT is unsecured. This subordination provision shall apply with respect to all of the SENIOR DEBT, regardless of how or in what manner the SENIOR DEBT is incurred, or whether the SENIOR DEBT has already been incurred or may be incurred in the future by future advances or other financial accommodations made or extended by the LENDER, or whether such future advances or other financial accommodations are made at the discretion of the LENDER under the LENDER'S DOCUMENTS or pursuant to commitment or otherwise. If the SUBORDINATING CREDITOR in violation of this AGREEMENT shall attempt any COLLECTION ACTION, any of the OBLIGORS or the LENDER may interpose as a defense or plea the making of this AGREEMENT and the LENDER may intervene and interpose such defense in its name or in the name of any of the OBLIGORS, and any of the OBLIGORS or the LENDER may by virtue of this AGREEMENT restrain the enforcement thereof in the name of any of the OBLIGORS or the LENDER.

Section 3. Permitted Payments. Notwithstanding the provisions of Section 2 of this AGREEMENT, until the LENDER has delivered to the SUBORDINATING CREDITOR a SUBORDINATION NOTICE, GSE SYSTEMS may pay to the SUBORDINATING CREDITOR, and the SUBORDINATING CREDITOR may accept or receive from GSE SYSTEMS the following payments, provided that the making of such payments by or on behalf of GSE SYSTEMS will not result in a DEFAULT or an EVENT OF DEFAULT:

- (a) Beginning on July 1, 2001, GSE SYSTEMS may pay to the SUBORDINATING CREDITOR regularly scheduled payments of accrued interest provided for under the SUBORDINATED NOTE when and as the same become due under the terms set forth in the SUBORDINATED NOTE (but without giving effect to any amendment or modification thereof which would have the effect of increasing the amount of any such payment or accelerating the due dates of such payments unless the LENDER has given its prior written consent thereto);
- (b) Beginning on April 1, 2004, GSE SYSTEMS may pay to the SUBORDINATING CREDITOR regularly scheduled payments of principal provided for under the SUBORDINATED NOTE when and as the same become due under the terms set forth in the SUBORDINATED NOTE (but without giving effect to any amendment or modification thereof which would have the effect of increasing the amount of any such payment or accelerating the due dates of any such payments, unless the LENDER has given its prior written consent thereto).
- (c) GSE SYSTEMS may pay to the SUBORDINATING CREDITOR payments of other sums and charges provided for under the SUBORDINATED NOTE with the prior written consent of the LENDER.

Upon the giving of a SUBORDINATION NOTICE by the LENDER to the SUBORDINATING CREDITOR, the absolute subordination and standby provisions of Section 2 shall govern and control and the SUBORDINATING CREDITOR shall not be entitled to receive any payments upon the SUBORDINATED DEBT until the date the LENDER provides the SUBORDINATING CREDITOR with written notice that there are no currently existing DEFAULTS or EVENTS OF DEFAULT. Within ten (10) calendar days after all DEFAULTS and EVENTS OF DEFAULT have been either expressly waived by the LENDER in writing or are cured to the LENDER'S satisfaction, the LENDER shall provide written notice thereof to the SUBORDINATING CREDITOR.

Section 4. Subordinated Indebtedness Owed Only to Subordinating Creditor. The SUBORDINATING CREDITOR warrants and represents to the LENDER that: (a) no person or entity owns an interest or any right of any kind in or to the SUBORDINATED DEBT, the SUBORDINATING CREDITOR'S DOCUMENTS, or the liens securing the SUBORDINATED DEBT (whether as joint holder of the SUBORDINATED DEBT, participant, assignee, pledgee or otherwise), other than the SUBORDINATING CREDITOR and First Union Commercial Corporation, as Agent, which is the holder of a blanket security interest in all of the existing and future assets of the SUBORDINATING CREDITOR as security for a syndicated credit facility provided by First Union Commercial Corporation and other lenders to the SUBORDINATING CREDITOR (and provided, however, First Union Commercial Corporation, as Agent under such credit facility, has been notified that the SUBORDINATED NOTE is subject to this AGREEMENT and has acknowledged same; and (b) the entire SUBORDINATED DEBT is owing solely to the SUBORDINATING CREDITOR. The SUBORDINATING CREDITOR acknowledges that the LENDER is relying upon the above-stated representations and warranties of the SUBORDINATING CREDITOR and that the LENDER would not continue to extend SENIOR DEBT to the BORROWERS without obtaining such representations and warranties from the SUBORDINATING CREDITOR and without the belief that the representations and warranties were true, accurate and complete in all respects.

Section 5. Priority On Distribution. In the event of any distribution, division, or application, partial or complete, voluntary or involuntary, by operation of law or otherwise, of all or any part of the assets of any of the OBLIGORS or of any readjustment of the obligations and indebtedness of any of the OBLIGORS, whether by reason of liquidation, bankruptcy, arrangement, receivership, assignment for the benefit of creditors or any other action or proceeding involving the readjustment of the indebtedness of any of the OBLIGORS, or of the sale of any assets of any of the OBLIGORS, then, and in any such event, all of such distributions or proceeds in respect of the SUBORDINATED DEBT shall be made to the LENDER until all SENIOR DEBT is paid and satisfied in full.

Section 6. Payments Or Distributions Received By Subordinating Creditor. Except as to payments or distributions which the SUBORDINATING CREDITOR is permitted to accept or receive pursuant to Section 3 hereof, should any payment or distribution be received by the SUBORDINATING CREDITOR upon or with respect to the SUBORDINATED DEBT prior to the satisfaction of all SENIOR DEBT, the SUBORDINATING CREDITOR shall receive and hold the same in trust, as trustee, for the benefit of the LENDER and shall forthwith deliver the same to the LENDER in precisely the same form received (except for the endorsement or assignment of the SUBORDINATING CREDITOR where necessary) for application on the SENIOR DEBT, due or not due, and until so delivered, the same shall be held in trust by the SUBORDINATING CREDITOR as the property of the LENDER, and shall not be commingled with other funds or property of the SUBORDINATING CREDITOR.

Section 7. Insolvency Proceedings. The SUBORDINATING CREDITOR may not commence or join with any other creditor in commencing any bankruptcy, reorganization or insolvency proceedings with respect to any of the OBLIGORS, unless the SENIOR DEBT has been fully satisfied; provided, however, that nothing in this Section 7 shall limit or restrict the SUBORDINATING CREDITOR from filing a claim (or taking any action necessary to achieve allowance of its claim) or, subject to the prior written consent of the LENDER, otherwise preserving its rights, if any of the OBLIGORS shall be the subject of a bankruptcy proceeding not commenced or joined by the SUBORDINATING CREDITOR. Any payments with respect to the SUBORDINATED DEBT received by the SUBORDINATING CREDITOR during any bankruptcy or insolvency proceedings and prior to payment in full of the SENIOR DEBT shall be held by the SUBORDINATING CREDITOR in trust for and turned over to the LENDER for application to the SENIOR DEBT.

Section 8. Disposition Of Assets Of Obligors. The SUBORDINATING CREDITOR agrees that any disposition by the LENDER of the assets of any of the OBLIGORS, whether by collection, sale, or other manner of liquidation, shall be conclusively presumed to be commercially reasonable and may not be challenged or contested by the SUBORDINATING CREDITOR. In this regard and without limiting the foregoing, the LENDER may (a) use such means of collection and exercise such diligence with respect thereto as the LENDER, in its discretion, deems appropriate under the circumstances, and (b) enter into such compromise with and give such releases and acquittances to account debtors or other obligors on any of the OBLIGORS' receivables, without obtaining the agreement or concurrence of or giving prior notice to the SUBORDINATING CREDITOR, and the SUBORDINATING CREDITOR hereby waives all right to require that its agreement or consent be obtained or that it be given notice.

Section 9. Release Of Liens By Subordinating Creditor. The SUBORDINATING CREDITOR agrees that in the event of any sale or other disposition of any of the assets of any of the OBLIGORS, whether by any of the OBLIGORS or by the LENDER, if the LENDER agrees to such sale or other disposition and releases its liens thereon, the SUBORDINATING CREDITOR shall: (a) be deemed ipso facto to have released and terminated its liens thereon; (b) have no right to object to the sale or other disposition of such assets or withhold or delay its consent, if such consent is required for the sale or other disposition of such assets; and (c) at the request of the LENDER, provide all necessary releases or terminations of security interests and liens held by the SUBORDINATING CREDITOR necessary in order to accomplish such sale or other disposition free and clear of all security interests and liens of the SUBORDINATING CREDITOR, all without any consideration or payment to the SUBORDINATING CREDITOR, unless the proceeds from such sale are applied to repay the SENIOR DEBT in full, in which event any proceeds in excess of the amount used to repay the SENIOR DEBT in full shall be paid to the SUBORDINATING CREDITOR if the SUBORDINATING CREDITOR had a security interest or lien in such assets subject only to the prior security interest or lien of the LENDER and such proceeds are not required by applicable law to be paid to any other party.

Section 10. Additional Covenants Of Subordinating Creditor. Until all of the SENIOR DEBT has been paid, the SUBORDINATING CREDITOR shall not permit any of the following to occur: (a) the SUBORDINATING CREDITOR shall not take or permit any action prejudicial to or inconsistent with LENDER'S priority position over the SUBORDINATING CREDITOR that is created by this AGREEMENT; and

(b) without the prior written consent of the LENDER, the SUBORDINATING CREDITOR shall not extend any loans or credit accommodations (other than forgiveness of some or all of the indebtedness evidenced by the SUBORDINATED NOTE for the benefit of the OBLIGORS) to any of the OBLIGORS after the date hereof, or receive or take any security interests, liens or pledges. The LENDER hereby consents to the loan to GSE SYSTEMS as described in the specific SUBORDINATING CREDITOR'S DOCUMENTS which are listed by title in Section 1.9 of this AGREEMENT.

Section 11. Default. The SUBORDINATING CREDITOR shall provide the LENDER with immediate notice of the occurrence of any defaults under the SUBORDINATING CREDITOR'S DOCUMENTS. Upon receipt by the LENDER of such written notice of default from the SUBORDINATING CREDITOR, the LENDER shall automatically be deemed to have given a SUBORDINATION NOTICE to the SUBORDINATING CREDITOR.

Section 12. Instrument Legend. The SUBORDINATING CREDITOR agrees that the SUBORDINATED NOTE, and any renewals or replacements thereof, and all security agreements, pledges, and other security documents which secure the SUBORDINATED DEBT will on the date hereof be inscribed with the following legend:

THIS INSTRUMENT AND ALL RIGHTS OF THE PARTIES HEREUNDER ARE SUBJECT TO AND GOVERNED BY THE TERMS AND CONDITIONS OF A SUBORDINATION AND INTERCREDITOR AGREEMENT DATED MARCH 30, 2001, BY AND BETWEEN MANTECH INTERNATIONAL CORPORATION AND NATIONAL BANK OF CANADA. WITHOUT LIMITATION OF THE FOREGOING, ALL RIGHTS OF PAYMENT, LIEN RIGHTS, AND ENFORCEMENT RIGHTS OF THE HOLDER OF THIS INSTRUMENT, ARE EXPRESSLY SUBORDINATED AND SUBJECT TO THE RIGHTS OF NATIONAL BANK OF CANADA AS PROVIDED IN THE SUBORDINATION AND INTERCREDITOR AGREEMENT.

The SUBORDINATING CREDITOR agrees to execute and deliver UCC-3 statements, and such other filings as the LENDER may reasonably require to reflect in the public records the subordination of the liens securing the SUBORDINATED NOTE to the liens of the LENDER securing the SENIOR DEBT.

Section 13. Assignees Bound By This Agreement. The SUBORDINATING CREDITOR agrees that in the event that the SUBORDINATING CREDITOR assigns any interest in the SUBORDINATED DEBT or the SUBORDINATING CREDITOR'S DOCUMENTS, any assignee thereof shall take subject to the terms and conditions of this AGREEMENT and shall be bound by each and every term contained herein. The SUBORDINATING CREDITOR agrees to advise any proposed assignee of the SUBORDINATED DEBT of the terms and conditions of this AGREEMENT and that such assignee's rights in the SUBORDINATED DEBT shall be subject to the terms of this AGREEMENT.

Section 14. Subrogation. After all of the SENIOR DEBT has been paid in full and until the SUBORDINATED DEBT has been paid in full, the SUBORDINATING CREDITOR shall be subrogated to the rights of the LENDER to receive distributions with respect to the SENIOR DEBT, to the extent that distributions otherwise payable to the SUBORDINATING CREDITOR have been applied to the payment of the SENIOR DEBT in accordance with the provisions of this AGREEMENT. As between GSE SYSTEMS and the SUBORDINATING CREDITOR, a distribution applied to the payment of the SENIOR DEBT in accordance with the provisions of this AGREEMENT which otherwise would have been made to the SUBORDINATING CREDITOR shall not be deemed a payment by GSE SYSTEMS on the SUBORDINATED DEBT, it being understood that the subordination provisions of this AGREEMENT are intended solely for the purpose of defining the relative rights of the SUBORDINATING CREDITOR, on the one hand, and the LENDER, on the other hand, and nothing contained in this AGREEMENT shall impair the obligations of GSE SYSTEMS, which are absolute and unconditional, to pay to the SUBORDINATING CREDITOR the SUBORDINATED DEBT as and when the same shall become due and payable in accordance with its terms, except as such obligation is modified by the rights confirmed hereunder in favor of the LENDER, or affect the relative rights of the SUBORDINATING CREDITOR and the creditors of GSE SYSTEMS other than the LENDER. The LENDER shall have no obligation or duty to protect the SUBORDINATING CREDITOR'S right of subrogation and shall have no liability to the SUBORDINATING CREDITOR for any loss or impairment of the SUBORDINATING CREDITOR'S subrogation rights.

Section 15. Term. This AGREEMENT shall constitute a continuing agreement between the SUBORDINATING CREDITOR and the LENDER may continue, without notice to the SUBORDINATING CREDITOR, to lend monies, extend credit and make other accommodations to or for the account of any of the OBLIGORS in reliance upon the provisions of this AGREEMENT. This AGREEMENT shall be irrevocable by the SUBORDINATING CREDITOR until all of the SENIOR DEBT shall have been paid and fully satisfied and all financing arrangements between any of the OBLIGORS and the LENDER pursuant to the LENDER'S DOCUMENTS have been terminated in writing, or until the SUBORDINATED DEBT shall have been paid and fully satisfied, whichever first occurs. This AGREEMENT and the obligations of the SUBORDINATING CREDITOR under this AGREEMENT shall continue to be effective, or be reinstated, as the case may be, if at any time any payment in respect of the SENIOR DEBT is rescinded or must otherwise be restored or returned by LENDER by reason of any bankruptcy, reorganization, arrangement, composition or similar proceeding or as a result of the appointment of a receiver, intervenor or conservator of, or trustee or similar official for any of the OBLIGORS or any substantial part of its property, or otherwise, all as though such payment had not been made.

Section 16. Waivers of Subordinating Creditor. All of the SENIOR DEBT shall be deemed to have been made or incurred in reliance upon this AGREEMENT, and the SUBORDINATING CREDITOR expressly waives all notice of the acceptance by the LENDER of the subordination and other provisions of this AGREEMENT, notice of the incurring of SENIOR DEBT from time to time under the LENDER'S DOCUMENTS and all other notices not specifically required pursuant to the terms of this AGREEMENT or by law, and the SUBORDINATING CREDITOR expressly waives reliance by the LENDER upon the subordination and other agreements as herein provided. The SUBORDINATING CREDITOR agrees that the LENDER has made no warranties or representations with respect to the due execution, legality, validity, completeness or enforceability of the LENDER'S DOCUMENTS or the collectibility of the SENIOR DEBT, and that the LENDER shall be entitled to manage and supervise the SENIOR DEBT in accordance with applicable law and its usual practices, modified from time to time as the LENDER may deem appropriate under the circumstances.

Section 17. Actions Permitted Lender. The LENDER may extend, modify, or renew all or any part of the SENIOR DEBT, release any surety or security, obtain additional security or exercise any other right or make additional loans to any of the OBLIGORS, all without any notice to or consent by the SUBORDINATING CREDITOR and without in any way impairing or altering the LENDER'S rights with respect to the SUBORDINATED DEBT. The SUBORDINATING CREDITOR hereby waives all diligence in collection of the SENIOR DEBT or in the protection or perfection of any security interest or lien the LENDER may have in the assets of any of the OBLIGORS. The LENDER may from time to time, whether before or after any discontinuance of this AGREEMENT and without notice to any of the OBLIGORS or the SUBORDINATING CREDITOR, assign or transfer all or any part of the SENIOR DEBT or any interest therein and, notwithstanding any such assignment or transfer or any subsequent assignment or transfered thereof, such SENIOR DEBT shall be and remain SENIOR DEBT for purposes of this AGREEMENT and every assignee or transferee and successive assignee or transferee of any of the SENIOR DEBT or any interest therein shall, to the extent of the interest of such assignee or transferee in the SENIOR DEBT, be entitled to the benefits of this AGREEMENT as if such assignee or transferee were the LENDER; provided, however, that unless the LENDER shall otherwise consent in writing, the LENDER shall have and retain an unimpaired right prior and superior to that of any such assignee or transferee, of this AGREEMENT for the benefit of the LENDER as to such part of the SENIOR DEBT that the LENDER has not assigned or transferred.

Section 18. Waivers of Lender. No waiver shall be deemed to be made by the LENDER of any of its rights hereunder, unless the same shall be in writing signed on behalf of the LENDER, and each waiver, if any, shall be a waiver only with respect to the specific instance involved and shall in no way impair the rights of the LENDER in any other respect at any other time.

Section 19. Notices. Any notice required or permitted by or in connection with this AGREEMENT shall be in writing and shall be made by facsimile (confirmed on the date the facsimile is sent by one of the other methods of giving notice provided for in this Section) or by hand delivery, by Federal Express, or other similar overnight delivery service, or by certified mail, unrestricted delivery, return receipt requested, postage prepaid, addressed to the LENDER or the SUBORDINATING CREDITOR at the appropriate address set forth below or to such other address as may be hereafter specified by written notice by the LENDER or the SUBORDINATING CREDITOR. Notice shall be considered given as of the date of the facsimile or the hand delivery, one (1) calendar day after delivery to Federal Express or similar overnight delivery service, or three (3) calendar days after the date of mailing, independent of the date of actual delivery or whether delivery is ever in fact made, as the case may be, provided the giver of notice can establish the fact that notice was given as provided herein. If notice is tendered pursuant to the provisions of this Section and is refused by the intended recipient thereof, the notice, nevertheless, shall be considered to have been given and shall be effective as of the date herein provided.

#### If to the LENDER:

NATIONAL BANK OF CANADA 125 West 55th Street New York, New York 10019

And

#### c/o NATIONAL BANK OF CANADA

401 E. Pratt Street, Suite 631 Baltimore, Maryland 21202

Attn: Robert A. Incorvati, Vice President Facsimile: (410) 837-8359

#### If to the SUBORDINATING CREDITOR:

#### MANTECH INTERNATIONAL CORPORATION

12015 Lee Jackson Highway, 8th Floor Fairfax, Virginia 22033

Attn.: Tracy A. Wilson, Assistant Secretary Fax No.: (703) 218-8296

With Courtesy Copies To:

#### **GOLDEN & NELSON, PLLC**

8285 Highglade Court Millersville, Maryland 21108

Attn.: Hedy L. Nelson, Esquire Facsimile No.: (410) 729-2246

and

#### DICKSTEIN SHAPIRO MORIN & OSHINSKY

2101 L Street, N.W. Washington, D.C. 20037-1526

Attn: Matthew S. Bergman, Esq.

Facsimile No.: (202) 887-0689

The failure of the LENDER to send any or all of the above courtesy copies shall not impair the effectiveness of notice given to the SUBORDINATING CREDITOR in the manner provided herein.

Section 20. Choice Of Law. The laws of the State of New York (excluding, however, conflict of law principles) shall govern and be applied to determine all issues relating to this AGREEMENT and the rights and obligations of the parties hereto, including the validity, construction, interpretation, and enforceability of this AGREEMENT and its various provisions and the consequences and legal effect of all transactions and events which resulted in the execution of this AGREEMENT or which occurred or were to occur as a direct or indirect result of this AGREEMENT having been executed.

Section 21. Consent To Jurisdiction; Agreement As To Venue. The SUBORDINATING CREDITOR irrevocably consents to the non-exclusive jurisdiction of the courts of the State of New York and the State of Maryland and of the United States District Court For The Southern District Of New York and for the District of Maryland, if a basis for federal jurisdiction exists. The SUBORDINATING CREDITOR agrees that venue shall be proper in any circuit court of the State of New York or the State of Maryland selected by the LENDER or in the United States District Court For The Southern District of New York or for the District Of Maryland if a basis for federal jurisdiction exists and waives any right to object to the maintenance of a suit in any of the state or federal courts of the State of New York or the State of Maryland on the basis of improper venue or of inconvenience of forum.

Section 22. Parties. This AGREEMENT shall be binding upon, and inure to the benefit of, the SUBORDINATING CREDITOR and the LENDER and their respective successors and assigns. The term "OBLIGORS" as used herein shall also refer to the successors and assigns of any of the OBLIGORS, including, without limitation, a receiver, trustee, custodian or debtor-in-possession.

Section 23. Section Titles. The section titles contained in this AGREEMENT are and shall be without substantive meaning or content of any kind whatsoever and are not a part of the agreement between the parties hereto.

Section 24. Authority. The SUBORDINATING CREDITOR represents and warrants to the LENDER that it has authority to enter into this AGREEMENT and that the person signing for it is authorized and directed to do so.

Section 25. Entire Agreement. This AGREEMENT constitutes and expresses the entire understanding between the parties hereto with respect to the subject matter hereof, and supersedes all prior and contemporaneous agreements and understandings, inducements or conditions, whether express or implied, oral or written. Neither this AGREEMENT nor any portion or provision hereof may be changed, waived or amended orally or in any manner other than by an agreement in writing signed by the LENDER and the SUBORDINATING CREDITOR.

Section 26. Additional Documentation. The SUBORDINATING CREDITOR shall execute and deliver to the LENDER such further instruments and shall take such further action as the LENDER may at any time or times reasonably request in order to carry out the provisions and intent of this AGREEMENT.

Section 27. Defects Waived. This AGREEMENT is effective notwithstanding any defect or voidability in the validity or enforceability of any instrument or document evidencing the SENIOR DEBT.

Section 28. Severability. The provisions of this AGREEMENT are independent of and separable from each other. If any provision hereof shall for any reason be held invalid or unenforceable, it is the intent of the parties that such invalidity or unenforceability shall not affect the validity or enforceability of any other provision hereof, and that this AGREEMENT shall be construed as if such invalid or unenforceable provision had never been contained herein.

Section 29. Execution In Counterparts; Delivery Via Facsimile. This AGREEMENT may be executed and delivered by the parties hereto in counterparts. Signatures to this AGREEMENT may be delivered via facsimile with each such signature so delivered to be of the same force and effect as if such signature were an original signature affixed by the signatory thereof to this AGREEMENT.

Section 30. Waiver Of Trial By Jury. Each party to this AGREEMENT agrees that any suit, action, or proceeding, whether claim or counterclaim, brought or instituted by either party hereto or any successor or assign of any party on or with respect to this AGREEMENT or which in any way relates, directly or indirectly, to the dealings of the parties with respect thereto, shall be tried only by a court and not by a jury. EACH PARTY HEREBY EXPRESSLY WAIVES ANY RIGHT TO A TRIAL BY JURY IN ANY SUCH SUIT, ACTION, OR PROCEEDING.

[SIGNATURES BEGIN ON NEXT PAGE]

IN WITNESS WHEREOF, this AGREEMENT has been duly executed by the parties hereto as of the day and year first above written.

#### WITNESS/ATTEST SUBORDINATING CREDITOR:

#### MANTECH INTERNATIONAL CORPORATION,

By: (SEAL)
Name:
Title:
Date: March \_\_\_\_, 2001

#### LENDER:

#### NATIONAL BANK OF CANADA

By: (SEAL)

Robert A. Incorvati,
Vice President

By: (SEAL)

James P. Sierakowski,
Vice President

Date: March \_\_\_\_\_, 2001

[CONTINUED ON FOLLOWING PAGE]

#### ACKNOWLEDGMENT AND AGREEMENT OF OBLIGORS

Each of the OBLIGORS does hereby accept and acknowledge receipt of a copy of the foregoing AGREEMENT, and agrees that it will not pay any of the SUBORDINATED DEBT, except as expressly permitted by the terms of the AGREEMENT, or grant any liens to secure the SUBORDINATED DEBT.

Each of the OBLIGORS hereby irrevocably and unconditionally authorizes the LENDER and the SUBORDINATING CREDITOR, without any further notice to or consent from the OBLIGORS, to exchange and disclose to the other from time to time such information about the businesses, financial affairs, operations, and status of collateral and credit facilities of the OBLIGORS as the LENDER and the SUBORDINATING CREDITOR elect to exchange.

IN WITNESS WHEREOF, the undersigned have caused this Acknowledgment And Agreement to be duly executed as of the day and year first above written.

WITNESS/ATTEST:		OBLIGORS:	
		GSE SYSTEMS, INC.	
	By:		_(SEAL)
		Jeffery G. Hough, Senior Vice President	
		Date: March, 2001	
		GSE PROCESS SOLUTIONS, INC.	
	By:		_(SEAL)
		Jeffery G. Hough, Senior Vice President Date: March, 2001	
		GSE POWER SYSTEMS, INC.	
	By:	<del></del>	_(SEAL)
		Jeffery G. Hough, Senior Vice President	
		Date: March, 2001	

#### **GP STRATEGIES CORPORATION**

	By:	(SEAL) Name :	_, Title:
Date: March, 2001			
	GSE	SYSTEMS INTERNATIONAL LTD.	
		By:  Jeffery G. Hough, Senior Vice President  Date: March, 2001  MSHI, INC.	
		By:  Jeffery G. Hough, Senior Vice President  Date: March, 2001  GSE ERUDITE SOFTWARE, INC.	
		By:(SEAL)  Jeffery G. Hough, Senior Vice President	

Date: March \_\_\_\_, 2001

#### GSE SERVICES COMPANY L.L.C.

 By:		(SEAL)
-	Jeffery G. Hough, Secretary	
	Date: March, 2001	
	GP INTERNATIONAL ENGINEERING & SIMULATION, INC.	
 By:		(SEAL)
	Jeffery G. Hough, Senior Vice President	
	Date: March 2001	

#### Exhibit 10.3

#### THIRD MODIFICATION AGREEMENT

THIS THIRD MODIFICATION AGREEMENT ("MODIFICATION") is made as of the 30th day of March, 2001, by and among GSE SYSTEMS, INC., a Delaware corporation, GSE PROCESS SOLUTIONS, INC., a Delaware corporation, and GSE POWER SYSTEMS, INC., a Delaware corporation (collectively, "BORROWERS"), GP STRATEGIES CORPORATION, a Delaware corporation ("GP STRATEGIES"), MANTECH INTERNATIONAL CORPORATION, a New Jersey corporation ("MANTECH"), GSE SYSTEMS INTERNATIONAL LTD., a Delaware corporation ("INTERNATIONAL"), MSHI, INC., a Virginia corporation ("MSHI"), GSE ERUDITE SOFTWARE, INC., a Delaware corporation ("ERUDITE"), GSE SERVICES COMPANY L.L.C., a Delaware limited liability company ("SERVICES"), GP INTERNATIONAL ENGINEERING & SIMULATION, INC., a Delaware corporation ("GP ENGINEERING"), and NATIONAL BANK OF CANADA, a Canadian chartered bank ("LENDER"). GP STRATEGIES and MANTECH are referred to collectively as the "LIMITED GUARANTORS." INTERNATIONAL, MSHI, ERUDITE, SERVICES, and GP ENGINEERING are referred to collectively as the "GUARANTORS."

#### **RECITALS**

Pursuant to the terms of a Loan And Security Agreement dated as of March 23, 2000, as amended pursuant to a First Modification Agreement dated as of May 30, 2000 ("FIRST MODIFICATION") and pursuant to a Second Modification Agreement dated as of July 20, 2000 ("SECOND MODIFICATION"), and various letter agreements executed from time to time (the aforesaid Loan and Security Agreement, as amended from time to time, "LOAN AGREEMENT") by and between the BORROWERS and the LENDER, the LENDER is providing to the BORROWERS a revolving credit facility in the originally stated principal amount of Ten Million Dollars (\$10,000,000.00). All capitalized terms used herein and not otherwise defined shall have the same meaning herein as in the LOAN AGREEMENT.

MANTECH has guaranteed all of the BORROWERS' obligations to the LENDER (subject to certain limitations set forth therein) pursuant to a Limited Guaranty Agreement dated as of March 23, 2000, as amended pursuant to the SECOND MODIFICATION (as amended, "MANTECH GUARANTY"). GP STRATEGIES has guaranteed all of the BORROWERS' obligations to the LENDER (subject to certain limitations set forth therein) pursuant to a Limited Guaranty Agreement dated as of March 23, 2000. The GUARANTORS have guaranteed all of the BORROWERS' obligations to the LENDER pursuant to Guaranty Agreements dated as of March 23, 2000.

The CREDIT FACILITY is secured by, among other things, the security interests and liens granted by the BORROWERS and the GUARANTORS to the LENDER pursuant to the LOAN AGREEMENT and the other LOAN DOCUMENTS. MANTECH has provided certain credit enhancements in connection with the CREDIT FACILITY, including but not limited to (a) irrevocable standby letter of credit no. 5867621 having an originally stated face amount of Nine Hundred Thousand Dollars (\$900,000.00), issued on April 6, 2000 by Mellon Bank, N.A. for the benefit of the LENDER, against MANTECH as account party, and having an expiry date of April 6, 2001 (together with any extensions or renewals thereof, "APRIL 2000 MANTECH L/C"), and (b) irrevocable standby letter of credit no. S868784, having an original undrawn face amount of Nine Hundred Thousand Dollars (\$900,000.00), issued by Mellon Bank, N.A. for the benefit of the LENDER, against MANTECH as account party (together with any extensions or renewals thereof, "ADDITIONAL MANTECH L/C").

The BORROWERS are in default under the LOAN AGREEMENT as a result of violations of Sections 6.21, 6.22, 6.23, 7.3, and 7.4 of the LOAN AGREEMENT on or before the date hereof ("EXISTING DEFAULTS"). As a result of the occurrence of the EXISTING DEFAULTS, the LENDER may terminate the CREDIT FACILITY and accelerate the time for payment of the OBLIGATIONS and exercise its rights and remedies upon default. Notwithstanding the EXISTING DEFAULTS, the LENDER is continuing to provide advances under the LOAN and has not as of the date hereof demanded repayment of any sums under the CREDIT FACILITY.

The BORROWERS have requested that the LENDER modify certain terms of the LOAN AGREEMENT. The BORROWERS have also requested that the LENDER waive the EXISTING DEFAULTS.

NOW, THEREFORE, in consideration of the premises, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties agree as follows:

Section 1. Recitals. The parties acknowledge the accuracy of the above Recitals and hereby incorporate the Recitals into this MODIFICATION.

Section 2. ManTech Letters of Credit. The BORROWERS and MANTECH hereby request that the LENDER draw upon the APRIL 2000 MANTECH L/C and the ADDITIONAL MANTECH L/C and apply the net proceeds of same to the OBLIGATIONS; provided, however, the LENDER shall not, in any event, incur any liability for any delay or failure to do so. Once drawn upon, neither the APRIL 2000 MANTECH L/C nor the ADDITIONAL MANTECH L/C shall constitute ELIGIBLE ADDITIONAL COLLATERAL VALUE. The BORROWERS and MANTECH agree to maintain the APRIL 2000 MANTECH L/C and the ADDITIONAL MANTECH L/C until drawn by the LENDER.

Section 3. Indebtedness to ManTech. GSE SYSTEMS shall be permitted to borrow from MANTECH an aggregate principal amount not to exceed Three Million Nine Hundred Thousand Dollars (\$3,900,000); provided: (a) Two Million One Hundred Thousand Dollars (\$2,100,000) of such indebtedness shall be evidenced, in part, by the Replacement Promissory Note of even date herewith in the principal amount of Two Million One Hundred Thousand Dollars (\$2,100,000) by GSE SYSTEMS and payable to the order of MANTECH, a copy of which has been provided to the LENDER; (b) Nine Hundred Thousand Dollars (\$900,000) of such indebtedness shall result from a drawing by the LENDER upon the APRIL 2000 MANTECH L/C in the amount of Nine Hundred Thousand Dollars (\$900,000), as set forth in Section 2 above, and such indebtedness shall be evidenced by instruments, agreements, and documents which shall be provided to the LENDER in advance of execution thereof and in form and substance satisfactory to the LENDER upon the ADDITIONAL MANTECH L/C in the amount of Nine Hundred Thousand Dollars (\$900,000) as set forth in Section 2 above, and such indebtedness shall be evidenced by instruments, agreements, and documents which shall be provided to the LENDER in advance of execution thereof and in form and substance satisfactory to the LENDER; and (d) all of such indebtedness shall be unsecured and subordinated to the OBLIGATIONS in writing pursuant to a written subordination agreement in the same form as the Subordination and Intercreditor Agreement of even date herewith by and between MANTECH and the LENDER.

Section 4. LIBOR Borrowing under the Loan Agreement. The BORROWERS agree that, notwithstanding anything to the contrary set forth in the LOAN AGREEMENT, during the period commencing on the date hereof and continuing for twelve (12) consecutive months hereafter, the BORROWERS shall not elect to accrue interest at the ADJUSTED LIBOR RATE and the LENDER shall have no obligation to make any advances under the CREDIT FACILITY as LIBOR BORROWINGS. In the event that no DEFAULT or EVENT OF DEFAULT shall occur or exist during, or at the end of, such twelve-month period, the BORROWER may, at the end of such twelve-month period, make elections for LIBOR BORROWINGS, subject to all of the terms and conditions set forth in the LOAN AGREEMENT.

Section 5. Amendment To Loan Agreement. The LOAN AGREEMENT is hereby amended and modified as follows:

a. Section 1.11 of the LOAN AGREEMENT captioned "Applicable Margin" is hereby amended and restated in its entirety as follows:

Section 1.11. Applicable Margin. The term "APPLICABLE MARGIN" means that percentage to be added to either the BASE RATE or the LIBOR RATE in order to determine an applicable ADJUSTED BASE RATE or ADJUSTED LIBOR RATE, which percentage shall be determined in accordance with the following schedule:

BASE RATE	LIBOR	RATE
0.75%	3.25%	

b. Section 1.18 of the LOAN AGREEMENT captioned "Borrowing Base" is

hereby amended by adding immediately following the words and punctuation "INTEREST RATE PROTECTION AGREEMENTS," the words and punctuation "FOREIGN EXCHANGE EXPOSURE,".

c. Article 1 of the LOAN AGREEMENT is hereby amended by adding the following definition of "Current Ratio" as new Section 1.29A immediately following Section 1.29 captioned "Credit Facility":

Section 1.29A. Current Ratio. The term "CURRENT RATIO" means, as at the end of any period, the ratio of (a) TOTAL CURRENT ASSETS as at the end of such period to (b) TOTAL CURRENT LIABILITIES plus, without duplication, the aggregate amount of all outstanding balances under the CREDIT FACILITY as at the end of such period.

d. Section 1.34 of the LOAN AGREEMENT captioned "Eligible Additional Collateral Value" is hereby amended and restated in its entirety as follows:

Section 1.34 Eligible Additional Collateral Value. The term "ELIGIBLE ADDITIONAL COLLATERAL VALUE" means, at any date of determination thereof, an aggregate amount equal to the STATED AMOUNT of a letter of credit having a face amount satisfactory to the LENDER, naming the LENDER as beneficiary, issued by a bank satisfactory to the LENDER, on terms and provisions acceptable to the LENDER, having an expiration date satisfactory to the LENDER, and being in form and substance satisfactory to the LENDER, in its sole discretion, provided the same shall be duly issued and delivered to the LENDER and in full force and effect, and provided further, the same shall cease to be included in the determination of ELIGIBLE ADDITIONAL COLLATERAL VALUE on the date which is thirty (30) days prior to such letter of credit's expiry date.

e. Article 1 of the LOAN AGREEMENT is hereby amended by adding the following definition of "Foreign Exchange Exposure" as new Section 1.48A immediately following Section 1.48 captioned "Fiscal Year":

Section 1.48A. Foreign Exchange Exposure. The term "FOREIGN EXCHANGE EXPOSURE" shall mean all existing and future obligations of any of the BORROWERS to the LENDER, and all risks and exposure to the LENDER as a result of transactions requested by or for the benefit of any of the BORROWERS, including, but not limited to, the risk that changes in foreign exchange rates will result in a financial loss, in terms of US dollars, to the LENDER, whether existing or arising from time to time, and whether in connection with foreign exchange credit accommodations and transactions, currency transactions, foreign exchange trades and settlement arrangements, foreign exchange risk derivative instruments, foreign exchange settlement risks, relative currency valuation, cross-currency risks, or otherwise.

- f. Clause (e) of Section 1.81 of the LOAN AGREEMENT captioned "Obligations" is hereby amended and restated in its entirety as follows:
- (e) payments, duties or obligations owed to the LENDER arising from or with respect to INTEREST RATE PROTECTION AGREEMENTS, FOREIGN EXCHANGE EXPOSURE (including but not limited to, foreign exchange facilities, foreign exchange risk derivative instruments, or currency transactions), existing or arising from time to time;
- g. Section 2.1 of the LOAN AGREEMENT captioned "Agreement to Extend the Loan" is hereby amended by adding at the end thereof the following:

Subject to the terms and conditions of this AGREEMENT and the LOAN DOCUMENTS, including but not limited to the terms of all reimbursement agreements, applications and other agreements, instruments, and documents required by the LENDER, the LENDER may, in its sole discretion, provide foreign exchange credit accommodations to the BORROWERS through but not including the TERMINATION DATE; provided

(a) the aggregate amount of the FOREIGN EXCHANGE EXPOSURE as determined by the LENDER in its sole discretion shall not at any time exceed Five Hundred Thousand Dollars (\$500,000), and (b) one hundred percent (100%) of the aggregate amount of the FOREIGN EXCHANGE EXPOSURE, as determined by the LENDER in its sole discretion from time to time, shall be fully reserved against the BORROWING BASE. If at any time, the LENDER determines that the FOREIGN EXCHANGE EXPOSURE exceeds any such permitted amounts, the BORROWERS shall pay to the LENDER the full amount of such excess in immediately available funds.

h. The first two sentences of Section 2.2.3 of the LOAN AGREEMENT captioned "Letter of Credit Fees And Other Charges" are hereby deleted and the following inserted in lieu thereof:

The BORROWERS, jointly and severally, shall pay to the LENDER a fee with respect to each outstanding LETTER OF CREDIT computed on the face amount of such LETTER OF CREDIT at an annual percentage rate (based on a 360-day year) equal to three and one-quarter percent (3.25%). The aforesaid letter of credit fee shall be payable quarterly in advance on the first BUSINESS DAY of each QUARTER.

i. Section 5.18 of the LOAN AGREEMENT captioned "Eligible Additional Collateral Value" is hereby amended and restated in its entirety as follows:

Section 5.18 Eligible Additional Collateral Value. Any letter of credit which any of the BORROWERS contend should be included in the calculation of ELIGIBLE ADDITIONAL COLLATERAL VALUE shall be considered "eligible" only if, at the time of determination of eligibility, there shall be no less than thirty (30) days remaining from such date of determination to the expiry date of the letter of credit. In addition, any letter of credit which any of the BORROWERS contend should be included in the calculation of ELIGIBLE ADDITIONAL COLLATERAL VALUE shall have an expiry date which is not less than one year from issuance.

j. Section 6.12.5 of the LOAN AGREEMENT captioned "Quarterly Financial Statements" is hereby amended and restated in its entirety as follows:

Section 6.12.5. Interim Financial Statements. (a) For the QUARTER ending March 31, 2001, as soon as available and in any event within forty-five (45) calendar days after the end of such QUARTER, the BORROWERS shall submit to the LENDER a consolidated and consolidating balance sheet of the BORROWERS and their SUBSIDIARIES as of the end of such quarter, a consolidated and consolidating statement of income and retained earnings of the BORROWERS and their SUBSIDIARIES for the period commencing at the end of the previous FISCAL YEAR and ending with the end of such quarter, and a consolidated statement of cash flow of the BORROWERS and their SUBSIDIARIES for the portion of the FISCAL YEAR ended with the last day of such quarter, all in reasonable detail and stating in comparative form the respective consolidated and consolidating figures for the projection and budget for such period and the respective consolidated and consolidating figures for the prior FISCAL YEAR and all prepared in accordance with G.A.A.P. and certified by the chief financial officer of each of the BORROWERS (subject to year-end adjustments).

- (b) In addition, as soon as available and in any event within thirty (30) calendar days after the end of each calendar month (provided in the case of the month of March 2001 only, within forty-five (45) calendar days after the end of such calendar month), the BORROWERS shall submit to the LENDER a consolidated and consolidating balance sheet of the BORROWERS and their SUBSIDIARIES as of the end of such month, a consolidated and consolidating statement of income and retained earnings of the BORROWERS and their SUBSIDIARIES for the period commencing at the end of the previous FISCAL YEAR and ending with the end of such month, and a consolidated statement of cash flow of the BORROWERS and their SUBSIDIARIES for the portion of the FISCAL YEAR ended with the last day of such month, all in reasonable detail and stating in comparative form the respective consolidated and consolidating figures for the projection and budget for such period and the respective consolidated and consolidating figures for the projection in the prior FISCAL YEAR and all prepared in accordance with G.A.A.P. and certified by the chief financial officer of each of the BORROWERS (subject to year-end adjustments).
- k. Section 6.12.6 of the LOAN AGREEMENT captioned "Annual Financial Statements" is hereby amended by adding, immediately after the words "stating in comparative form," the words "the respective consolidated and consolidating figures for the projection and budget for such period and".
- 1. Section 6.12.10 of the LOAN AGREEMENT captioned "Certificates of No Default" is hereby amended and restated in its entirety as follows:

#### Section 6.12.10. Certificates of No Default. Within thirty

(30) calendar days after the end of each calendar month, each of the BORROWERS shall submit to the LENDER certificates of the chief financial officers of each of the BORROWERS certifying that: (i) there exists no DEFAULT or EVENT OF DEFAULT, or if a DEFAULT or an EVENT OF DEFAULT exists, specifying the nature thereof, the period of existence thereof and what action such BORROWER proposes to take with respect thereto; (ii) no material adverse change in the condition, financial or otherwise, business, property or results of operations of such BORROWER has occurred since the previous certificate was sent to the LENDER by such BORROWER or, if any such change has occurred, specifying the nature thereof and what action such BORROWER has taken or proposes to take with respect thereto; (iii) all insurance premiums then due have been paid; (iv) all taxes then due have been paid or, for those taxes which have not been paid, a statement of the taxes not paid and a description of such BORROWER'S rationale therefor; (v) no litigation, investigation or proceedings, or injunction, writ or restraining order is pending or threatened or, if any such litigation, investigation, proceeding, injunction, writ or order is pending, describing the nature thereof; and (vi) stating whether or not the GUARANTORS and the BORROWERS are in compliance with the covenants in this AGREEMENT, including a calculation of the financial covenants in the schedule attached to such officers' certificates in form satisfactory to the LENDER.

m. Sections 6.21 and 6.22 of the LOAN AGREEMENT captioned "Minimum EBITDA" and "Minimum Tangible Net Worth Plus Subordinated Debt" respectively, are hereby amended and restated in their entirety as follows:

Section 6.21. Minimum EBITDA. The EBITDA of the BORROWERS and their respective consolidated SUBSIDIARIES measured on a consolidated basis shall be: (a) for the QUARTER ending March 31, 2001, measured at the end of such QUARTER, not less than \$1,050,000.00; (b) for each of the calendar months ending April 30, 2001, through and including December 31, 2001, measured at the end of each such month, not less than \$383,000.00; (c) for each calendar month thereafter, measured at the end of each such month, not less than \$450.000.00.

Section 6.22. Minimum Tangible Net Worth Plus Subordinated Debt. As of the end of each accounting period set forth below of the BORROWERS and their respective consolidated SUBSIDIARIES, the sum of TANGIBLE NET WORTH plus SUBORDINATED DEBT of the BORROWERS and their respective consolidated SUBSIDIARIES on a consolidated basis shall be not less than the respective amount set forth for such accounting period:

(a) for the QUARTER ending March 31, 2001, and for each of the calendar months ending April 30, 2001 and May 31, 2001:

#### \$3,700,000.00;

- (b) for each of the calendar months ending June 30, 2001, July 31, 2001, and August 31, 2001: \$6,100,000.00;
- (c) for each of the calendar months ending September 30, 2001, October 31, 2001, and November 30, 2001: \$6,750,000.00;
- (d) for each of the calendar months ending December 31, 2001, January 31, 2002, and February 28, 2002: \$6,850,000.00;
- (e) for each of the calendar months ending March 31, 2002, April 30, 2002, and May 31, 2002: \$7,000,000.00;
- (f) for each of the calendar months ending June 30, 2002, July 31, 2002, and August 31, 2002: \$7,150,000.00;
- (g) for each of the calendar months ending September 30, 2002, October 31, 2002, and November 30, 2002: \$7,300,000.00;
- (h) for each of the calendar months ending December 31, 2002, January 31, 2003, and February 28, 2003: \$7,450,000.00.
- n. Section 6.23 of the LOAN AGREEMENT captioned "Minimum Working Capital" is hereby deleted and the following new Section 6.23 captioned "Minimum Current Ratio" inserted in lieu thereof:

Section 6.23. Minimum Current Ratio. The CURRENT RATIO of the BORROWERS and their respective consolidated SUBSIDIARIES on a consolidated basis shall be not less than the respective amount as of the end of each calendar month set forth below: (a) as of the end of each calendar month ending March 31, 2001 through and including August 31, 2001: 0.80; (b) as of the end of each calendar month ending September 30, 2001 through and including November 30, 2001: 0.85; (c) as of end of the calendar month ending December 31, 2001: 0.90; and (d) as of the end of the calendar month ending January 31, 2002 and each calendar month thereafter: 1.00.

o. Section 6.24 of the LOAN AGREEMENT captioned "Ratio of Total Liabilities to Tangible Net Worth Plus Subordinated Debt" is hereby amended and restated in its entirety as follows:

Section 6.24. Ratio of Total Liabilities to Tangible Net Worth Plus Subordinated Debt. The BORROWERS and their respective consolidated SUBSIDIARIES on a consolidated basis shall maintain as of the end of each calendar month set forth below the ratio of (a) TOTAL LIABILITIES to (b) TANGIBLE NET WORTH plus SUBORDINATED DEBT not greater than the respective ratio set forth below:

Month ending		Ratio
3/31/01	6.25	
4/30/01	6.25	
5/31/01	6.25	
6/30/01 and each calendar	4.00	
month thereafter		

Section 6. Amendment of ManTech Guaranty. The MANTECH GUARANTY is hereby amended and modified by amending and restating Section 3 thereof captioned "Letter of Credit" in its entirety as follows:

Section 3. Letter of Credit. (a) The GUARANTOR has delivered to the LENDER an irrevocable standby letter of credit no. 5867621 having an original undrawn face amount of Nine Hundred Thousand Dollars (\$900,000.00) naming the LENDER as beneficiary, issued by Mellon Bank, N.A. on April 6, 2000 and having an expiration date of April 6, 2001 ("APRIL 2000 MANTECH L/C"). The GUARANTOR has also delivered to the LENDER an additional irrevocable standby letter of credit no. S868784, having an original undrawn face amount of Nine Hundred Thousand Dollars (\$900,000.00), naming the LENDER as beneficiary, issued by Mellon Bank, N.A., on July 19, 2000 and having an expiration date of July 18, 2001 ("ADDITIONAL MANTECH L/C;" the ADDITIONAL MANTECH L/C and the APRIL 2000 MANTECH L/C are each sometimes referred to individually as a MANTECH L/C and are referred to collectively as the "MANTECH L/Cs"). The GUARANTOR acknowledges that the MANTECH L/Cs are to serve as part of the BORROWING BASE for the LOAN to the BORROWERS.

(b) Effective, respectively, upon the due delivery to the LENDER of each original fully executed, issued and effective MANTECH L/C satisfying all of the conditions set forth above (as applicable to the APRIL 2000 MANTECH L/C or the ADDITIONAL MANTECH L/C, as the case may be), and continuing, respectively, for so long as each such MANTECH L/C shall be effective, the provisions of Section 2 of this GUARANTY shall be deemed amended to the effect that the GUARANTY MONETARY AMOUNT set forth in Section 2 shall be reduced by an amount equal to the original undrawn face amount of each such MANTECH L/C which continues so in effect. Upon expiration or release of a MANTECH L/C, the amendments to the GUARANTY MONETARY AMOUNT set forth in this clause (b) arising as a result of the issuance and delivery of such MANTECH L/C shall immediately and without further notice be void and of no further force and effect. Upon expiration or release of both MANTECH L/Cs, all of the provisions of Section 2 shall be as stated in Section 2. Upon a drawing or drawings by the LENDER upon one or both of the MANTECH L/Cs and application of such amount to payment of the obligations of the BORROWERS to the extent of such drawing and application of proceeds. Upon a drawing by the LENDER upon both of the MANTECH L/Cs equal to the full \$1,800,000.00 aggregate face amount of such MANTECH L/Cs, and application of such amounts to payment of the obligations of the BORROWERS to the LENDER, subject to reinstatement pursuant to Section 24 hereof, this GUARANTY shall be automatically terminated and MANTECH shall have no further obligations hereunder.

Section 7. Waiver of Existing Defaults. Subject to the terms of this MODIFICATION, the LENDER hereby waives the EXISTING DEFAULTS. The contrary notwithstanding, the waiver granted herein shall not constitute a waiver of any other violation, DEFAULT, or EVENT OF DEFAULT which may exist under the LOAN AGREEMENT or any other LOAN DOCUMENT, whether or not known to the LENDER, nor shall it constitute a waiver of any future violation, DEFAULT, or EVENT OF DEFAULT occurring under the LOAN AGREEMENT or any other LOAN DOCUMENT, including without limitation, any future or additional violation of Sections 6.21, 6.22, 6.23, 7.3, and 7.4 of the LOAN AGREEMENT.

Section 8. Amendment Fee. This provisions set forth in Sections 2 - 7, inclusive of this MODIFICATION shall be conditioned upon and shall not be effective until the BORROWER shall have paid to the LENDER a non-refundable and unconditional fee equal to Twenty Thousand Dollars (\$20,000.00). The fee shall not be considered to be a payment of any of the LENDER's expenses incurred in connection with the CREDIT FACILITY or this MODIFICATION.

Section 9. Acknowledgment of Guarantors and Limited Guarantors. Each of the GUARANTORS and the LIMITED GUARANTORS hereby acknowledges the modifications and other terms set forth herein and, except as specifically modified hereby, ratifies and confirms all of its respective obligations under the LOAN DOCUMENTS to which it is a party.

Section 10. Other Terms. Except as specifically modified herein, all other terms and provisions of the LOAN DOCUMENTS remain in full force and effect and are hereby ratified and confirmed. The modifications contained herein shall not constitute a novation of, or a refinancing of, the CREDIT FACILITY or affect the validity, priority, or enforceability of the liens and security interests created by or granted in the LOAN DOCUMENTS.

Section 11. Additional Representations and Warranties. As an inducement to the LENDER to enter into this AGREEMENT, the BORROWERS, the GUARANTORS, and the LIMITED GUARANTORS hereby make the following additional representations and warranties to the LENDER:

- a. Each of them: (i) has the power to enter into this MODIFICATION and any related documents, and to perform all of its obligations hereunder and thereunder; (ii) has duly authorized the entry into and performance of this MODIFICATION and all related documents; and (iii) is in good standing in the state of its incorporation (or formation) and in all other states in which it transacts business, except where the failure to be in good standing would not materially affect performance under the LOAN DOCUMENTS.
- b. None of them is in default of any of its respective duties or obligations of the LOAN DOCUMENTS (other than the EXISTING DEFAULTS).
- c. No event exists which constitutes, or which with the passage of time, the giving of notice, or both, would constitute a default under the LOAN AGREEMENT or any of the LOAN DOCUMENTS (other than the EXISTING DEFAULTS).
- d. None of them is in default under any other contract, agreement or instrument to which it is a party or under which it or any of its property is bound.
- e. The execution, delivery and performance of this MODIFICATION will not immediately, or with the passage of time, the giving of notice, or both violate any laws or result in a default under any contract, agreement, or instrument to which any of them is a party or by which any of them or any of their property is bound.
- f. All warranties and representations previously made to the LENDER by the each of them in connection with the LOAN DOCUMENTS remain true, accurate and complete, except to the extent that the LENDER has previously been notified.

- g. There are no outstanding judgments, tax liens, or pending litigation against any of them, and there are no actions, suits, investigations or proceedings pending or, to the knowledge of any of them, threatened against any of them or against any of the COLLATERAL, except as disclosed on a schedule to the LOAN DOCUMENTS or on Schedule A attached hereto.
- h. No material adverse change has occurred in the financial condition of any of the BORROWERS or any of the GUARANTORS, as indicated on their financial statement most recently submitted to and reviewed by the LENDER, and no event has occurred or circumstance exists which may cause such a material adverse change.
- i. This MODIFICATION and all of the LOAN DOCUMENTS, as modified and amended in accordance herewith, are the valid and binding obligations of each of them and are fully enforceable in accordance with all stated terms.
- Section 12.Final Agreement. This MODIFICATION and the other LOAN DOCUMENTS, as modified herein, constitute the entire agreement between the parties hereto with respect to the CREDIT FACILITY, and may not be altered, modified or amended except by a writing executed by the LENDER and any other party against whom any such modification or amendment is to be enforced.
- Section 13. Fees And Expenses. The BORROWERS, jointly and severally, agree to promptly pay all costs and expenses incurred by the LENDER in connection with this MODIFICATION, including, but not limited to, all attorneys' fees.
- Section 14. Binding Effect. This MODIFICATION shall inure to the benefit of the parties hereto, and shall be binding upon, their respective personal representatives, successors and assigns.
- Section 15. Choice Of Law. The laws of the State of New York (excluding, however, conflicts of law principles) shall govern and be applied to determine all issues relating to this MODIFICATION and the rights and obligations of the parties hereto, including the validity, construction, interpretation, and enforceability of this MODIFICATION and its various provisions and the consequences and legal effect of all transactions and events which resulted in the execution of this MODIFICATION or which occurred or were to occur as a direct or indirect result of this MODIFICATION having been executed.
- Section 16. Tense, Gender, Defined Terms, Captions. As used herein, the plural shall refer to and include the singular, and the singular shall refer to and include the plural. The use of any gender shall include and refer to any other gender. All defined terms are completely capitalized throughout this MODIFICATION. All captions are for the purpose of convenience only.

Section 17. Time. Time is of the essence with respect to this MODIFICATION and all terms and conditions described herein.

Section 18. Release Of Claims. Each of the BORROWERS, GUARANTORS and LIMITED GUARANTORS hereby releases, waives, discharges and agrees to hold the LENDER and its officers, directors, agents, attorneys, and employees harmless from any and all claims, known or unknown, which such BORROWER, GUARANTOR or LIMITED GUARANTOR might have against the LENDER or its officers, directors, agents, attorneys, or employees which in any way relate, pertain, or arise, directly or indirectly, from the CREDIT FACILITY, the LOAN DOCUMENTS, this MODIFICATION, or which otherwise relate or pertain to the collateral securing the obligations of the BORROWERS (or any of them) to the LENDER, the transactions described in this MODIFICATION, or the conduct of the parties with respect thereto.

Section 19. No Waiver. The LENDER, at any time or from time to time, may waive all or any rights under this MODIFICATION or the other LOAN DOCUMENTS, as amended, but any such waiver or indulgence by the LENDER at any time or from time to time shall not constitute a future waiver of performance or exact performance by the BORROWERS.

Section 20. Waiver of Trial by Jury. Each party to this MODIFICATION agrees that any suit, action, or proceeding, whether claim or counterclaim, brought or instituted by any party hereto or any successor or assign of any party on or with respect to this MODIFICATION or any other LOAN DOCUMENT or which in any way relates, directly or indirectly, to the OBLIGATIONS or any event, transaction, or occurrence arising out of or in any way connected with any of the OBLIGATIONS, or the dealings of the parties with respect thereto, shall be tried only by a court and not by a jury. EACH PARTY HEREBY EXPRESSLY WAIVES ANY RIGHT TO A TRIAL BY JURY IN ANY SUCH SUIT, ACTION, OR PROCEEDING.

[SIGNATURES BEGIN ON NEXT PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this MODIFICATION under seal as of the date first above written. This MODIFICATION may be executed in counterparts and may be delivered via facsimile.

WITNESS/ATTEST:		BORROWERS:	
		GSE SYSTEMS, INC.	
	ву:		(SEAL)
		Jeffery G. Hough, Senior Vice President	
G	SE PROCESS SOI	LUTIONS, INC.	
	ву:		(SEAL)
		Jeffery G. Hough, Senior Vice President	
		GSE POWER SYSTEMS, INC.	
	ву:		(SEAL)
		Jeffery G. Hough, Senior Vice President	
		LIMITED GUARANTORS:	
		GP STRATEGIES CORPORATION	
	ву:		
		Name : Title:	

## MANTECH INTERNATIONAL CORPORATION

E	y:	(SEAL)
	Name:Title:	
GUA	RANTORS:	
GSE SYSTEMS II	NTERNATIONAL LTD.	
B	y:	(SEAL)
	Senior Vice President	
MS	SHI, INC.	
B		(SEAL)
	Jeffery G. Hough, Senior Vice President	
	GSE ERUDITE SOFTWARE, INC	! <b>.</b>
B:	y:	(SEAL)
	Jeffery G. Hough, Senior Vice President	
	GSE SERVICES COMPANY L.L.	C.
B		(SEAL)
	Jeffery G. Hough,	

Secretary

# GP INTERNATIONAL ENGINEERING & SIMULATION, INC.

	By:	Jeffery G. Hough, Senior Vice President	(SEAL)
	THE LEN	DER:	
NATION	AL BANK	COF CANADA	
	By:	Robert A. Incorvati, Vice President	(SEAL)
	ву:	James P. Sierakowski, Vice President	(SEAL)

#### Exhibit 21.1

## SUBSIDIARIES OF REGISTRANT AT DECEMBER 31, 2000

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, GSE Process Solutions, Inc., GSE Erudite Software, Inc., and VirtualPlant, 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 Systems UK, Ltd. and GSE Process Solutions B.V. are wholly owned subsidiaries of GSE Process Solutions, Inc.

GSE Process Solutions Singapore (Pte) Limited is a wholly owned subsidiary 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	Place of Incorporation or Organization
GS Information Systems FSC, Ltd. GSE Systems International Ltd.	Barbados State of Delaware
MSHI, Inc. GSE Power Systems AB	State of Virginia Sweden
GSE Process Solutions, Inc.	State of Delaware
GSE Erudite Software, Inc. VirtualPlant, Inc.	State of Delaware State of Delaware
GP International Engineering & Simulation, Inc	State of Delaware
GSE Services Company L.L.C.	State of Delaware
GSE Power Systems, Inc.	State of Delaware
GSE Systems UK, Ltd.	United Kingdom
GSE Process Solutions B.V.	Netherlands
GSE Process Solutions Singapore (Pte) Limited	Singapore

#### Exhibit 23.1

## CONSENT OF INDEPENDENT AUDITORS

The Board of Directors GSE Systems, Inc.:

We consent to the incorporation by reference in the registration statement (No.333-08805) on Form S-8 of GSE Systems, Inc. of our report dated March 30, 2001 relating to the consolidated balance sheet of GSE Systems, Inc. as of December 31, 2000, and the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity and cash flows for the year then ended, which report appears in the December 31, 2000 annual report on Form 10-K of GSE Systems, Inc.

/s/KPMG LLP

Baltimore, Maryland March 30, 2001

## Exhibit 23.2

## CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-08805) of GSE Systems, Inc. of our report dated February 29, 2000 relating to the consolidated financial statements of GSE Systems, Inc., which appears in this Annual Report on Form 10-K.

/s/ PricewaterhouseCoopers LLP PricewaterhouseCoopers LLP

McLean, Virginia March 30, 2001

#### Exhibit 24.1

## 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 and Jeffery G. Hough, and each of them, the true and lawful agents and attorneys-in-fact of the undersigned with full power and authority in said agents and attorneys-in-fact, and in any one or both of them, to sign for the undersigned and in their respective names as Officers and Directors of the Corporation, the Annual Report of Form 10-K of the Corporation to be filed with the Securities and Exchange Commission, Washington, D.C., under the Securities Exchange Act of 1934, as amended, and any amendment or amendments to such Annual Report, hereby ratifying and confirming all acts taken by such agents and attorneys-in-fact, or any one or more of them, as herein authorized.

Dated: March 15, 2001

	Name	Title
/S/	JEROME I. FELDMAN Jerome I. Feldman	Chairman of the Board
/S/	SHELDON L. GLASHOW Sheldon L. Glashow	Director
/S/	SCOTT N. GREENBERG Scott N. Greenberg	Director
/\$/	JOSEPH W. LEWIS Joseph W. Lewis	Director
/\$/	JOHN A. MOORE, JR. John A. Moore, Jr.	Director
/S/	GEORGE J. PEDERSEN George J. Pedersen	Director

#### Conformed

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549 FORM 10-K (Mark One)

## [ X ] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2000

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

9189 Red Branch Road, Columbia, Maryland 21045

(Address of principal executive offices) (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. [X]

The aggregate market value of Common Stock held by non-affiliates as of March 15, 2001 was \$7,322,873 based on closing price of such stock on that date.

Number of shares of Common Stock outstanding as of March 15, 2001: 5,193,527

## DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates certain information by reference from the Registrant's definitive proxy statement to be filed for its 2001 Annual Meeting of Shareholders.

## GSE SYSTEMS, INC. FORM 10-K For the Year Ended December 31, 2000

## 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, the ability of the Company to meet bank financial covenants and manage cash needs, and general market conditions and competition. See "Risk Factors," in Part I. 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'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 to, among other things, 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.

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 $<sup>^{\</sup>star}$  to be incorporated by reference from the Proxy Statement for the registrant's 2001 Annual Meeting of Shareholders.

## ITEM 1. BUSINESS.

GSE Systems, Inc. ("GSE Systems", "GSE" or the "Company") develops and delivers business and technology solutions by applying process control, simulation software, systems and services to the energy, process and manufacturing industries worldwide. 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 700 applications, representing over 250 customers in 44 countries, in the following industries: specialty chemical, food & beverage, pharmaceutical, and fossil and nuclear power generation.

#### **Recent Developments.**

#### **Power Simulation Business**

The Company's Power Simulation Business Unit continued to show profitable performance during the year, as the Company maintained its dominant market position in the nuclear power simulation industry. Utilizing its technical and project management strengths, the business unit expanded its focus to include the fossil power market and an emphasis was placed on developing the tools necessary to exploit the fossil simulation marketplace. As a result, the Company was successful in several competitive bids for fossil simulators, including a multi-million dollar order for a full scope fossil simulator in India. The Company sees this as a growing market segment for the power business. In addition, the deregulation of the electric power industry has increased the importance of efficient and reliable operations of power stations. The use of simulation to address these issues has resulted in new opportunities for GSE to improve the simulation fidelity of existing simulators and the supply of new simulators around the world. While GSE simulators are primarily utilized for power plant operator training, the uses are expanding to include engineering, plant modification studies, and operating efficiency improvements for both nuclear and fossil utilities.

#### **Process Control Business**

GSE's Process Control business experienced sluggish performance during the first half of the year. After spending extensively in 1998 and the first half of 1999 on upgrading their process control systems to deal with the Y2K date issue concerns, customer spending on additional investments in their process control systems remained depressed in the first half of 2000. The entire process control industry was affected by this trend, as well as other economic factors in the Chemical Industry which reduced overall capital spending on process control systems. Accordingly, the Company implemented a restructuring plan to bring the operating costs in line with lower revenue projections. Actions taken included personnel reductions, the outsourcing of Process' manufacturing and assembly operations, and the sale of Process' unprofitable European operations based in Belgium to Newton Integrated Services, B.V. of Bergen Op Zoom, Netherlands. As part of the sale, Newton, which is an engineering company that focuses on electrical, mechanical and control system services, entered into a marketing agreement with Process to be the European distributor of the D/3 product line. The Process Business Unit (net of its VirtualPlant(TM) activities) saw an improvement to operating income in the third and fourth quarters of the year as a result of the restructuring.

## VirtualPlant Strategy

During 2000, the Company continued to develop and invest extensively in its VirtualPlant business and marketing strategy that was introduced in 1999. VirtualPlant combined the benefits of real-time simulation with control systems to create a real-time representation of an operating plant. VirtualPlant also allowed a customer to create an environment for simulation-enhanced experimentation, thereby reducing the amount of physical experimentation necessary to achieve an optimal design result for a new process product.

A significant step in implementing the VirtualPlant strategy was the Company's participation in the February 2000 founding of Avantium International B.V. ("Avantium"), a Netherlands-based high technology company that employs high-speed experimentation and simulation technologies in contract research and development in the area of new product development and process chemistry. GSE licensed certain of its simulation software products to Avantium in exchange for Avantium preferred and common stock. At December 31, 2000 the Company held approximately 10.4% of Avantium's outstanding preferred and common stock. GSE was to provide the basis for the informatics system that would automate and maximize Avantium's lab environment, and utilize its core simulation technologies to assist in the optimization of experimentation as well as analysis of the resulting data.

In addition, the Company received a \$2.9 million contract from Avantium to make certain improvements and enhancements to the software licensed to Avantium. In the fourth quarter, GSE delivered Virtual Laboratory workstations to Avantium's Laboratory in the Netherlands and to the Technical University in Delft. These Virtual Labs use GSE's D/3 Control System(TM), VPBatch(TM) recipe/experiment management software, BatchCAD and SimSuite Pro(TM) simulation software in combination with high-speed experimentation robotic equipment to accomplish high throughput catalyst development.

In early 2000, GSE's Board of Directors acknowledged that outside investment was required to support the development of the VirtualPlant business since the Company's cash flow was insufficient by itself. After the Company was unsuccessful in attracting the needed capital with terms acceptable to the Board, the Board made the decision to sell the VirtualPlant assets to Avantium in exchange for Avantium stock, thus eliminating the cash burden on the Company.

The asset sale closed on March 6, 2001 and included certain fixed assets of the Company, intellectual property (including BatchCAD and BatchWizard software products), and the employment of certain personnel in both the US and the UK. GSE received 8% of Avantium's stock, thus increasing its holdings in Avantium to approximately 18%. GSE retains one seat on the supervisory board of Avantium. Also, the Company licensed their process control and simulation software ("GSE Process Software") exclusively to Avantium for the R&D market. This licensing arrangement includes free updates to the GSE Process Software. In return, GSE received a royalty-free license to use any upgrades of the GSE Process Software produced by Avantium in the manufacturing market. GSE also received a royalty-free license to use and produce upgrades of the BatchWizard Software owned by Avantium in the manufacturing market. Avantium and GSE will continue to work together in the marketplace and in product development so that common clients will be able to use Avantium's VirtualPlant technology to develop scalable products that will fit together at the manufacturing level with GSE's process control and simulation products, thus speeding up market introduction and reducing the overall life cycle costs.

## **Continued Research and Development**

Throughout the year, GSE continued to invest in its core products of D/3 Distributed Control System and Power Simulation technology. The Company enhanced the capabilities of the D/3 to communicate with more I/O families, by adding a connection to the Allen Bradley ControlNet data highway, and continued the development of the next release of the D/3, version 10.2. GSE also expanded the features of Microsoft Windows NT(R) within the products, completing the development of its VPbatch product, which is the Windows NT version of its FlexBatch Recipe and Process management software.

Continuing its history of bringing leading edge technology to the simulation market, the Company has also started converting its Power Simulation tools to be able to use Java technology to take better advantage of the internet to provide remote training to customers.

## Background.

GSE Systems was formed on April 13, 1994, by ManTech International Corporation ("ManTech"), GP Strategies Corporation ("GP Strategies") and its affiliates, General Physics Corporation and SGLG, Inc., and Vattenfall AB 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"). On December 30, 1994, GSE Systems expanded into the process control automation and supply chain management consulting industry through its acquisition of the process systems division of Texas Instruments Incorporated, which the Company operates as GSE Process Solutions, Inc. ("Process Solutions").

In April 1996, the Company aligned its operating groups into three strategic business units 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 & Consulting, Inc. ("Erudite"), a regional provider of client/server technology, custom application software development, training services, hardware/software sales, and network design and implementation services. The acquisition was made to facilitate the Company's efforts to enter the client/server information technology solutions market. Erudite was subsequently combined with a small pre-existing consulting group within the Company to form the Company's Business Systems business 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 positioned the Company to be more competitive for modifications and upgrade services projects within the nuclear simulation market.

After incurring substantial losses in 1997, management decided to divest the Company's unprofitable business units and concentrate its resources on its core businesses, Power Systems and Process Solutions. Accordingly, in April 1998, the Company sold substantially all of the assets of Erudite to Keane, Inc. and in November 1998, the Company divested certain assets of the Oil & Gas business unit to Valmet Automation (USA), Inc. See Note 3, Acquisitions and dispositions, in the "Notes to the Consolidated Financial Statements" for a discussion of these transactions.

In April 1999, the Company acquired certain assets and employed the associates of BatchCAD Limited. With this acquisition, the Company gained a presence in the United Kingdom, with an office in Hexham, England, that was to provide the baseline for future expansion in the region. In addition, the BatchCAD product was a key element in the Company's VirtualPlant business and marketing strategy.

See the prior section "Recent Developments" for a discussion of GSE's development of its VirtualPlant strategy in 2000 and the sale of the VirtualPlant business to Avantium International B.V. in March 2001.

## **Business Strategy.**

GSE Systems combines 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.

Low cost, high quality products is the mantra of the manufacturing business. GSE believes deregulation in the energy sector will result in the same mantra for the power industry, thus resulting in an increase in the use of high fidelity simulation in the fossil power market. In the past, that market segment was characterized by simplified simulation solutions used mainly to teach operators the use of new distributed control systems. With deregulation, the power companies are realizing that sophisticated simulation models will help teach the operators how to improve plant efficiency, avoid unscheduled outages and maximize production in a competitive power market.

The strategy of combining simulation and control technology to help customers optimize plant performance in the manufacturing space is a viable strategy. The Company proved its value in the R&D market space through its VirtualPlant business. The Company will work on exploiting the strategy in the manufacturing market space. The combination of our technologies will provide a virtual representation of our customers' ideal or existing plant that can be used for model reference control and assist management of the business with determining the optimal approach to operating the plant. In the energy sector we will provide energy managers with the ability to reduce operating costs by gaining more productivity through training, plant information, asset management, security and plant design and optimization.

The Company will also continue to use our process control and batch and recipe management systems to optimize production in the chemical, pharmaceutical and food & beverage industries by improving process chemistry in correlation with process flow throughout the plant. These tools assist in "brand" transition to quickly meet market demands, and technology transfer between locations. The tools help the customer understand and manage scheduling and equipment utilization to optimize plant throughput.

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 strengths.

#### Services and Products.

GSE Systems has developed its knowledge and expertise in process control and simulation systems that are utilized to improve, control and model processes. This expertise is concentrated heavily in the process industries, including 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 the proprietary technology and know-how 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 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:

- o VPbatch(TM) (formerly FlexBatch(R)), a flexible batch manufacturing system used to facilitate the rapid creation of various batch production processes;
- o TotalVision(TM), which is a graphical system that provides a client/server-based human-machine interface for real-time process and plant information;
- o VPtv(TM), a webenabled version of the TotalVision package; and
- o 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.

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:

- o SimExec(TM), a Windows NT(R) based real-time simulation executive system that controls all simulation activities and allows for an off-line software development environment in parallel with the training environment.
- o Extreme I/S, a Windows NT(R) based Instructor Station that allows the use of Microsoft Word and Powerpoint to control the real time simulation environment. It is an extremely user friendly tool for classroom training and electronic report generation.
- o RACS, a fully integrated Access Control and Intrusion Detection System ideally suited for nuclear power plant security applications and other large, multi-access facilities.
- o SIMON(TM), a computer workstation system used for monitoring stability of boiling water reactor plants. SIMON assists the operator in determining potential instability events, enabling corrective action to be taken to prevent unnecessary plant shutdowns.
- o Vista PIN, a PC based plant information system, provides unparalleled flexibility usefulness and ease of maintenance while decreasing the cost of ownership. Vista PIN provides real-time display of process parameters, trends, alarm status, and historical data archiving with on-line retrieval.

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 250 customers worldwide. In 2000, approximately 52% 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, Ameron, Arizona Public Service, Bethlehem Steel Corporation, Cargill Incorporated, Carolina Power and Light Company, Commonwealth Edison Company, Eastman Company, Eskom South Africa, Formosa Plastics Company, Karnaraft Sakerhet & Utbildning AB, Korean Electric Power Company, Merck & Co., Inc., Miller Brewing Company, Nationalina Elecktrischecka Kompania, Orgrez SC, Pacific Northwest National Laboratory, Taiwan Power Company, West Bengal Development Corp. and Westinghouse Savannah River Company.

For the year ended December 31, 2000, one Process customer accounted for approximately 11% of the Company's revenues, and one Power customer accounted for approximately 22% of the Company's revenues.

## Strategic Alliances.

In conjunction with the sale of the Company's Belgian subsidiary in 2000, the Company has entered into an International Business Associate, Market and Sales Channel Agreement with Newton Integrated Services B.V. of the Netherlands to promote and implement process control solutions in Europe. The Company has often employed strategic partners and systems integrators for its Power Simulation business, and is now exploiting more of this strategy in the process control market.

In recent years, a high portion of the Company's international business has come from major contracts in Eastern Europe, including the republics of the former Soviet Union, the Pacific Rim and India. In order to acquire and perform these contracts, the Company entered into strategic alliances or partnerships with various entities including Automation Systems Co. Inc., a subsidiary of Beijing Jihang Automation (China); All Russian Research Institute for Nuclear Power Plant Operation (Russia); Kurchatov Institute (Russia); Macmet Ltd. (India); PowerGen (England); Risk Engineering Ltd. (Bulgaria); Samsung Electronics (Korea); Toyo Engineering Corporation (Japan); and Institute for Information Industry (Taiwan). These alliances have enabled the Company to penetrate these regions by combining its technological expertise with the regional or local presence and knowledge of its partners.

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 system 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 that 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 Alabama, Georgia, Louisiana, Maryland, North and South Carolina, Pennsylvania and Texas. Outside the U.S., the Company has offices in Sweden, Japan, and Taiwan. 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, Bulgaria, Belgium, Netherlands, Spain, the Czech Republic, India, South Africa, Mexico, Argentina, Taiwan, Korea, Japan and the People's Republic of China.

#### **Product Development.**

In 2000, the Company completed the development of its VPbatch product which is the Windows NT version of its FlexBatch Recipe and Process Management software, and completed the development of version 10.2 (released in December) of the Company's D/3 Distributed Control System. In addition, the Company continued development initiatives to improve the product ease of use of its process simulation products. For the years ended December 31, 2000, 1999 and 1998, gross research and product development expenditures for the Company were \$3.6 million, \$5.4 million, and \$4.3 million, respectively. Capitalized software development costs totaled \$1.9 million, \$2.5 million, and \$2.3 million for the years ended December 31, 2000, 1999 and 1998. See Note 2, Summary of significant accounting policies, in the "Notes to Consolidated Financial Statements" for a discussion of the Company's policy regarding capitalization of software development costs.

The Company also continued to develop simulation code generation tools applicable to the growing fossil power industry. These tools bring the high fidelity modeling with easy to use graphical interfaces to quickly build models for fossil plant simulators. This reduces the cost of production to allow the Company to be price competitive in the industry.

#### **Industries Served.**

The following chart illustrates the approximate percentage of the Company's 2000, 1999, and 1998 revenues, respectively, attributable to each of the major industries served by the Company:

	2000	1999	1998
Process	45%	52%	49%
Power	55%	48%	42%
Other	_	-	9%
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, 2000, the Company's aggregate contract backlog totaled approximately \$23 million.

#### Employees.

As of December 31, 2000, the Company had 303 employees, a 26% decrease from December 1999. The reductions were primarily associated with the Process Controls Business Unit restructuring as discussed in the "Recent Developments" section, above.

## **Segment Information.**

See Note 18, Segment information, in the "Notes to Consolidated Financial Statements" for a discussion of the Company's business segments.

#### RISK FACTORS.

## Fluctuations in Quarterly Operating Results.

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

## International Sales and Operations.

Sales of products and the provision of services to end users outside the United States accounted for approximately 52 % of the Company's consolidated revenues in 2000. 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. 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.

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 affect the continued operation and construction of nuclear power plants, including the political and regulatory environment, the availability and cost of alternative means of power generation, the occurrence of future nuclear incidents, 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 that are influenced by customer preferences. The Company has expended significant resources in developing versions of its core products that 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.

## **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.

Additionally, 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.

## 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. 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. 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.

## Influence of Affiliate Stockholders.

As of the date of this report, certain directors, executive officers and other parties that are affiliates of the Company beneficially own approximately 43% 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 that require stockholder approval.

#### ITEM 2. PROPERTIES.

The Company's Power business unit is headquartered in a facility in Columbia, Maryland (approximately 53,000 square feet) which also houses the Company's corporate headquarters offices and support functions. The Process business unit is located in a 34,000 square foot facility in Baltimore, Maryland. The leases for both of these facilities expire in 2008.

In addition, the Company leases office space domestically in Alabama, Georgia, Louisiana, Texas, Pennsylvania, North and South Carolina, and internationally in Japan, Sweden, and Taiwan. The Company leases these facilities for terms ending between 2001 and 2002. During 1999, as part of the wind down of the Oil & Gas business unit, the Company's facilities in Singapore and Korea were closed. In 2000, the Company's lease for its Belgian operations was transferred in the sale of its Belgian subsidiary, and the leases for its UK operations were transferred to Avantium as part of the VirtualPlant asset sale in March, 2001.

## 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, 2000.

#### **PART II**

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

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

	2000	
Quarter	High	Low
First Second Third Fourth	\$ 9 \$ 8 2/3 \$ 4 5/8 \$ 3 3/8	\$ 3 \$ 3 \$ 2 \$ 1 1/5
	1999	
Quarter	High	Low
First Second Third Fourth	\$ 5 \$ 6 3/4 \$ 6 1/4 \$ 4 1/4	\$ 2 1/2 \$ 4 1/8 \$ 3 3/4 \$ 3

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

There were approximately 35 holders of record of the common stock as of March 15, 2001. 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.

## ITEM 6. SELECTED FINANCIAL DATA.

Historical consolidated results of operations and balance sheet data presented below, have been derived from the historical financial statements of the Company. The Company disposed of substantially all of the assets of its subsidiary, GSE Erudite Software, Inc., as of April 30, 1998. Effective as of October 30, 1998, the Company completed the sale of certain assets related to activities of its Oil & Gas business unit ("O&G"). Effective December 1, 1997, the Company acquired J.L. Ryan, Inc. 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 18, Segment information, in the "Notes to Consolidated Financial Statements".

			Year	s ended Decem	ber 31,	
(in thousands, except per share data)		2000	1999	1998	1997	1996
Contract revenue		\$ 55,715	\$ 66,699	\$ 73,818	\$ 79,711	\$ 96,033
Cost of revenue		40,822	41,629	49,814	58,326	63,679
Gross profit		14,893	25,070	24,004	21,385	32,354
Operating expenses:						
Selling, general and administ	rative	17,853	22,646	20,345	27,320	24,192
Depreciation and amortization	ı	1,695	1,680	1,768	2,368	2,111
Business combination costs		_	_	_	_	1,206
Employee severance and termin	nation costs	_	_	_	1,124	_
Total operating expenses		19,548	24,326	22,113	30,812	27,509
Operating income (loss)		(4,655)	744	1,891	(9,427)	4,845
Gain (loss) on sales of assets		(990)	_	550		_
Interest expense, net		(687)	(450)	(350)	(765)	(387
Other income (expense), net		55	40	326	(1,228)	394
Income (loss) before income taxes		(6,277)	334	2 417	(11,420)	4,852
Provision for (benefit from) income	taxes	2,537	233	1,020	(2,717)	709
Net income (loss)		\$ (8,814)	\$ 101	\$ 1,397	\$ (8,703)	\$ 4,143
Earnings (loss) per common share:	-Basic	\$ (1.70)	\$ 0.02	\$ 0.28	1 1 1	\$ 0.82
	-Diluted	\$ (1.70)	\$ 0.02	\$ 0.27	,	\$ 0.82
Weighted average common shares out:	standing:	========	=======	-======	=======	=======
	-Basic	5,182	5,066	- ,	5,066	5,066
	-Diluted	5,182	5,351	5,107	5,066	5,073
				As o	of December 31,	
		2000	1999	1998	1997	1996
Working capital		\$ 5,522	\$ 8,665	\$ 4,058	\$ 1,646	\$ 13,867
Total assets					48,362	
Long-term liabilities		12,390	9,083	3,350	2,369	2,580
Stockholders' equity		8,713	17,170	17,089	15,924	24,693

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

During the year ended December 31, 2000, the Company incurred significant operating losses which resulted in non-compliance with certain financial covenants included in the Company's bank credit facility. The Company has obtained a waiver of the financial covenant defaults as well as certain covenant modifications to help position the Company for future compliance. Nevertheless, future compliance will depend upon achieving significantly improved operating results during 2001 and beyond.

Management has undertaken a number of initiatives during 2000 and 2001 to improve operating results and cash flows including:

- (i) The restructuring of the Process business unit to reduce operating costs. Actions taken in 2000 included (a) personnel reductions; (b) the outsourcing of Process' manufacturing and assembly operations; and (c) the sale of Process' unprofitable Belgian subsidiary to Newton Integrated Services, B.V. of the Netherlands. Included in operating results for the year ended December 31, 2000 are revenues of \$1.5 million and operating losses, before allocation of corporate expenses, of \$308,000 attributable to GSE Process Solutions N.V.
- (ii) The sale of the Company's VirtualPlant business to Avantium International B.V. ("Avantium"). The asset sale closed on March 6, 2001 and included certain fixed assets of the Company, intellectual property, and the employment of certain personnel in both the US and UK by Avantium. GSE received 8% of Avantium's stock, thus increasing its holdings in Avantium to approximately 18%. For the year ended December 31, 2000, the Company's VirtualPlant business had revenues of \$6.1 million and an operating loss before allocation of corporate expenses of \$3.4 million.
- (iii) ManTech International Corporation ("Mantech") has agreed to allow the Company's bank to draw upon ManTech's \$1.8 million letter of credit which supports the Company's credit facility, thus paying down a portion of the Company's bank debt, in exchange for additional subordinated debt in the Company. (See Note 16, Related party transations, in the "Notes to Consolidated Financial Statements.")

Management believes the initiatives undertaken will enable the Company to maintain compliance with the revised bank financial covenants as well as provide sufficient cash flow to meet the Company's obligations as they become due. However, if the initiatives are not successful or if there are unforeseen decreases in demand for the Company's products or increases in working capital needs the Company may be unable to meet the revised bank financial covenants and/or to generate sufficient cash flows from operations. In such case, the Company will be required to obtain additional covenant modifications and additional sources of funding. There can be no assurance that such covenant modifications or funding, if needed, will be available.

## **Results of Operations.**

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

	Years ended December 31,					
	2000	%	1999	%	1998	*
Contract revenue	\$55,715	100.0 %	\$66,699	100.0 %	\$73,818	100.0 %
Cost of revenue	40,822	73.3 %	41,629	62.4 %	49,814	67.4 %
Gross profit Operating expenses:	14,893	26.7 %	25,070	37.6 %	24,004	32.6 %
Selling, general and administrative	17,853	32.1 %	22,646	34.0 %	20,345	27.6 %
Depreciation and amortization	1,695	3.0 %	1,680	2.5 %	1,768	2.4 %
Total operating expenses	19,548	35.1 %	24,326	36.5 %	22,113	30.0 %
Operating income (loss)	(4,655)	(8.4)%	744	1.1 %	1,891	2.6 %
Gain (loss) on sales of assets	(990)	(1.8)%	-	- %	550	0.7 %
Interest expense, net	(687)	(1.2)%	(450)	(0.7)%	(350)	(0.5)%
Other income, net	55	0.1 %	40	0.1 %	326	0.5 %
Income (loss) before income taxes	(6,277)	(11.3)%	334	0.5 %	2,417	3.3 %
Provision for income taxes	2,537	4.5 %	233	0.3 %	1,020	1.4 %
Net income (loss)	\$(8,814)	(15.8)%	\$ 101	0.2 %	\$ 1,397	1.9 %

## Comparison of 2000 to 1999.

Contract Revenue. Total contract revenue was \$55.7 million and \$66.7 million for the years ended December 31, 2000 and 1999, respectively.

The Process business unit's revenues decreased by \$9.4 million, or 27.2%, to \$25.2 million in 2000 from \$34.6 million in 1999. Beginning in the second half of 1999, the Process business unit experienced an order slowdown as customers postponed additional investments in their process control systems, pending the resolution of Y2K date issue concerns. This order slowdown continued into 2000 as customers either spent their capital funding on other projects (since so much money was spent on upgrading the process control systems in 1998-1999) or were faced with tougher economic conditions in 2000 (especially customers in the chemical industry) which forced them to cut back on their overall capital spending. Included in the 2000 Process revenue was \$2.9 million from the sale of licenses for five of GSE's software products to Avantium International B.V. ("Avantium") in February, including the object and source codes, in exchange for an equity interest in Avantium. See Note 4, Investment in Avantium International B.V., in the "Notes to Consolidated Financial Statements" for a discussion of this transaction.

The Power business unit revenue decreased by \$1.6 million, or 5.0%, to \$30.5 million in 2000 from \$32.1 million in 1999, primarily due to lower nuclear simulation upgrade orders from Japanese and Eastern European customers.

Gross Profit. In large part due to the lower revenues in 2000, gross profit declined to \$14.9 million in 2000 (26.7% of revenue) from \$25.1 million in 1999 (37.6% of revenue). The decrease in gross profit as a percentage of revenue is due to the following:

- o In 1999, the Process business was benefiting from customer concerns about the Y2K issue and their efforts to upgrade their D/3 systems to Y2K compliant versions. Upgrade projects typically have less hardware and instrumentation components (lower margined items as these are typically "pass-through" purchases) and more license fees and application engineering work which have higher margins. In 2000, a higher percentage of the revenues were generated through maintenance, time and material, spares and training which have lower margins than the upgrade projects.
- o Capitalized software amortization increased from \$1.8 million in 1999 to \$2.2 million in 2000 due to the completion in 1999 of the NT platform conversion of the D/3 Distributed Control System, the release of version 10.1 of the D/3 product in July 2000, and the completion of several upgrades to the SimSuite Pro Software in July 2000 and the initiation of the amortization of the related capitalized costs. o A \$710,000 provision was recorded in December 2000 for certain Process inventory to adjust its carrying value to net realizable value.

Selling, General and Administrative Expenses. Selling, general and administrative ("SG&A") expenses totaled \$17.9 million in 2000 (32.1% of revenues), a 20.8% decrease from 1999 expenses of \$22.6 million (34.0% of revenues). Other than changes in research and developments costs, which decreased \$1.2 million and are discussed below, the decrease in SG&A is attributable to:

- o Fewer sales and marketing personnel and travel costs in the Process business unit due to the restructuring of this business.
- o Lower sales commissions due to lower Process business unit orders.
- o A reduction in corporate personnel.
- o The completion in 1999 of the Company's internal Y2K compliance program for which an outside consultant was utilized as project manager.

o A reduction in recruiting and relocation costs of newly hired personnel.

o The completion in 1999 of the amortization of the cost of the warrants issued to ManTech and GP Strategies in 1998 in consideration of guarantees issued by these companies for GSE's credit facility.

These reductions were somewhat offset by the initiation of a marketing program in 2000 which was designed to promote the benefits of VirtualPlant, and the products and services associated with the Company's affiliation with Avantium, to major customers around the world.

Gross research and product development expenditures were \$3.6 million (6.5% of revenue) and \$5.4 million (8.1% of revenue) for the years ended December 31, 2000 and 1999, respectively. Of these expenditures, \$1.9 million in 2000 and \$2.5 million in 1999 were capitalized. Thus, net research and development ("R&D") costs included in selling, general and administrative expenses were \$1.7 million and \$2.9 million during the years ended December 31, 2000 and 1999, respectively. The reduction in R&D spending reflects the completion of the conversion of Process' D/3 Distributed Control System to the Microsoft Windows NT platform (Version 10.0, which introduced the new platform, was released in October 1999) and a reduction in personnel as part of the Process business restructuring.

In 2000, the Company completed the development of its VPbatch product, which is the Windows NT version of its FlexBatch Recipe and Process Management software, and completed the development of version 10.2 (released in December) of the Company's D/3 Distributed Control System. In addition, the Company continued development initiatives to improve the product ease of use of its process simulation products and to create a set of software simulation tools for fossil power utilities.

Depreciation and Amortization. Depreciation expense amounted to \$1.2 million and \$1.3 million during the years ended December 31, 2000 and 1999, respectively.

Amortization of goodwill was \$528,000 and \$388,000 during the years ended December 31, 2000 and 1999, respectively. The increase in amortization reflects the increase in goodwill due to payments made for contingent consideration for prior year acquisitions.

Operating Income (Loss). The Company incurred an operating loss of \$4.7 million (8.4% of revenue) for the year ended December 31, 2000, compared with operating income totaling \$744,000 (1.1% of revenue) in 1999. The decrease in operating income (loss) reflects the lower revenues in 2000 coupled with the reduction in Process gross margin percent due to product mix as discussed above, the increase in capitalized software amortization in 2000, the provision for write-down of Process inventory and the investments made by the Company in developing its VirtualPlant marketing and business strategy.

Loss on Sale of Assets. The loss on sale of assets in 2000 reflects the net pre-tax loss realized on the disposition of GSE Process Solutions NV, the Company's Belgian subsidiary in the fourth quarter. This sale and related loss is described more fully under Note 3, Acquisitions and dispositions, in the "Notes to Consolidated Financial Statements".

Interest Expense, net. Interest expense increased to \$687,000 in 2000 from \$450,000 in 1999. This increase is attributable primarily to an increase in the Company's borrowings under its line of credit made during the period to fund working capital requirements.

Other Income, net. Other income amounted to \$55,000 in 2000 versus \$40,000 in 1999, resulting from recognized foreign currency transaction gains.

Provision for Income Taxes. Despite incurring a loss before income taxes in 2000, the Company has recorded a tax provision of \$2.5 million. This provision is mainly the result of an increase in the valuation reserve against the Company's deferred income tax assets. The reserve was increased to reduce the total deferred tax asset to an amount that management believes will more likely than not be realized. The difference between the statutory U.S. tax rate and the Company's effective rate for 2000 is primarily due to the change in the deferred tax asset valuation reserve and foreign taxes. The difference between the statutory U.S. tax rate and the Company's effective rate for 1999 was primarily the effect of foreign operations taxed at different rates, state taxes, and adjustments to the prior year tax provision based on the final 1998 tax returns.

## Comparison of 1999 to 1998.

Contract Revenue. Total contract revenue was \$66.7 million and \$73.8 million for the years ended December 31, 1999 and 1998, respectively. During 1998, the Company disposed of substantially all of the assets of its Erudite subsidiary and Oil & Gas business unit. Included in 1998 revenue was \$5.3 million from Erudite and \$1.1 million from the Oil & Gas business unit. After excluding these contract revenues from 1998 results, total revenues decreased \$0.7 million from 1998, or 1.0%.

The Power business unit increased revenue by \$1.2 million, or 3.9%, to \$32.1 million in 1999 from \$30.9 million in 1998, primarily due to higher domestic simulator upgrade projects and service contracts. The Process business unit's revenues decreased by \$1.9 million, or 5.2%, to \$34.6 million in 1999 from \$36.5 million in 1998. During the second half of 1999, the Process Business Unit experienced an order slowdown as customers postponed additional investments in their process control systems, pending the resolution of Y2K date issue concerns.

Gross Profit. Despite the lower revenues in 1999, gross profit increased to \$25.1 million in 1999 (37.6% of revenue) from \$24.0 million in 1998 (32.6% of revenue). The increase in gross profit as a percentage of revenues reflects a higher component of upgrade projects in the Process business unit in 1999 than in 1998, mainly due to customer concerns about Y2K date calculations in their existing process control software. Such upgrades typically have fewer hardware and instrumentation components and more license fees and application engineering

work, which tend to generate higher margins. In addition, the 1998 margins were impacted slightly by low margins on revenues generated by Erudite and the Oil & Gas business unit prior to the divestiture of their assets. Excluding the margins on the revenues of these divested businesses, 1998 gross profit as a percentage of revenue would have been 33.1%.

Selling, General and Administrative Expenses. Selling, general and administrative expenses totaled \$22.6 million in 1999 (34.0% of revenues), an 11.3% increase from 1998 expenses of \$20.3 million (27.6% of revenues). Other than changes in research and development costs which increased \$900,000 and are discussed below, the increase reflects additional sales and marketing personnel in the Process business unit, increased advertising and promotions related to the Company's VirtualPlant suite of products and services, higher legal fees related to the Company's new credit facility, and internal Y2K compliance programs.

Gross research and product development expenditures were \$5.4 million (8.1% of revenue) and \$4.3 million (5.8% of revenue) for the years ended December 31, 1999 and 1998, respectively. Of these expenditures, \$2.5 million in 1999 and \$2.3 million in 1998 were capitalized. Thus, net research and development costs included in selling, general and administrative expenses were \$2.9 million and \$2.0 million during the years ended December 31, 1999 and 1998, respectively. The Company continued to invest in the conversion of its D/3 Distributed Control System (TM) (Version 10.0 was released in October, 1999), VPBatch(TM), and SimSuitePro(TM) products to the Microsoft Windows NT(R) platform.

Depreciation and Amortization. Depreciation expense amounted to \$1.3 million and \$1.2 million during the years ended December 31, 1999 and 1998, respectively.

Amortization of goodwill was \$388,000 and \$365,000 during the years ended December 31, 1999 and 1998, respectively.

Operating Income (Loss). Operating income amounted to \$744,000 (1.1% of revenue) and \$1.9 million (2.6% of revenue), for the years ended December 31, 1999 and 1998, respectively. The decrease in operating income was due mainly to higher selling, general and administrative costs, as discussed above.

Gain (Loss) on Sales of Assets. The gain on sales of assets in 1998 reflects the net pre-tax gain realized on the disposition of the Erudite and the Oil & Gas business unit assets. During the second quarter of 1998, the Company recorded a gain of \$5.6 million on the sale of the Erudite assets. In the third quarter of 1998, the Company recognized a (\$5.0) million pre-tax loss on the disposition of the Oil & Gas business unit assets. These sales and related gains and losses are described more fully under Note 3, Acquisitions and dispositions, in the "Notes to Consolidated Financial Statements".

Interest Expense, net. Interest expense increased to \$450,000 in 1999 from \$350,000 in 1998. This increase is attributable primarily to an increase in the Company's borrowings under its lines of credit made during the period to fund working capital requirements.

Other Income, net. Other income amounted to \$40,000 in 1999 versus \$326,000 in 1998, resulting from recognized foreign currency transaction gains.

Provision for Income Taxes. The Company's effective tax rate was 69.8% in 1999 versus 42.2% in 1998. The difference between the statutory U.S. tax rate and the Company's effective rate for 1999 is primarily the effect of foreign operations taxed at different rates, state taxes and adjustments to the prior year tax provision based on the final 1998 tax returns.

## Liquidity and Capital Resources.

Operating Activities. The Company used \$4.5 million in its operating activities during 2000. The Company's \$2.9 million revenue from licensing software in exchange for stock of Avantium International B.V. was a non-monetary transaction and had no impact on the Company's operating cash flow. Significant changes in the Company's assets and liabilities included:

- o A \$1.9 million reduction in contract receivables which is mainly related to the decline in overall revenues.
- o A \$1.6 million reduction in inventories. In 1999, the Process stockroom inventory increased approximately \$650,000 due to purchases of large supplies of various PC boards that are extremely expensive to purchase in small quantities and for which the Company had forecasted significant usage, plus the return of some material from customers. In 2000, this inventory decreased approximately \$800,000 as the Company made a concerted effort to reduce on-hand inventory. The balance of the decrease is due to the write-down of excess and slow moving inventory.
- o A \$1.6 million reduction in billings in excess of revenues earned due to the lower business volume in 2000.

Net cash provided by operating activities was \$2.6 million during 1999. Significant changes in the Company's assets and liabilities included a \$4.4 million reduction in contract receivables partially due to improvements in internal collection processes; a \$1.9 million reduction in accounts payable and accrued expenses; and a \$3.3 million reduction in billings in excess of revenues earned.

In 1998, the Company's operating activities used cash totaling \$772,000.

Investing Activities. Net cash used in investing activities totaled \$3.3 million in 2000, including \$472,000 of capital expenditures, \$1.9 million of capitalized software development costs, \$658,000 in cash payments for acquired businesses (\$598,000 of contingent considerations for prior year acquisitions, and \$60,000 for notes payable related to a prior year acquisition), and \$261,000 in connection with the disposition of the Company's Belgium subsidiary.

In 1999, the Company used \$4.1 million for investing activities, consisting primarily of \$1.4 million of capital expenditures, \$2.5 million of capitalized software development costs, and \$930,000 in cash payments for acquired businesses (\$300,000 for the Mitech acquisition in 1999, \$530,000 for contingent considerations for prior year acquisitions, and \$100,000 for notes payable related to a prior year acquisition.) The Company received \$731,000 from Keane, Inc. as final payment on the 1998 Erudite sale.

In 1998, the Company's investing activities generated \$5.3 million, consisting primarily of \$9.7 million from the sale of assets (see Note 3, Acquisitions and dispositions, in the "Notes to Consolidated Financial Statements"), partially offset by \$2.1 million used for capital expenditures and \$2.3 million for capitalized software development costs

Financing Activities. In 2000, the Company obtained \$6.6 million net cash from the following financing activities:

- o The Company increased its borrowings under its bank line of credit by \$3.0 million.
- o In January 2000, the Company issued 116,959 shares of its common stock to ManTech International Corporation for \$500,000.
- o The assignment of two long-term customer sales-type lease contracts to a finance company generated \$1.1 million.
- o In the fourth quarter 2000, the Company issued a demand promissory note to ManTech International Corporation, which allows the Company to borrow up to \$1.8 million. At December 31, 2000, the Company had borrowed a total of \$1.6 million. This note is subordinated to the Company's bank credit facility. See additional discussion of this promissory note in the "Credit Facilities" section below.
- o Cash used to collateralize outstanding letters of credit was reduced by \$202,000 due to the reduction in the value of outstanding letters of credit in 2000.

In 1999, the Company generated \$2.0 million net cash from financing activities. The assignment of two long-term customer sales-type lease contracts to a finance company generated \$3.4 million cash, which was partially offset by the paydown of the Company's credit lines (\$.5 million), repayments under capital lease obligations (\$143,000) and the deposit of \$735,000 into a bank account for which the balance was used to collateralize two of the Company's outstanding letters of credit.

In 1998, 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.

#### Credit Facilities.

On March 23, 2000, the Company entered into a new loan and security agreement with a bank for a new credit facility with a maturity date of March 23, 2003. Borrowings from this facility were used to repay the existing debt under the Company's previous credit facility. The line of credit (the "Credit Facility") provides for borrowings up to a total of \$10.0 million to support working capital needs and foreign letters of credit. At December 31, 2000, the Company's available borrowing base was \$10.0 million, of which approximately \$9.3 million had been utilized. See Note 11, Long-term debt, in the "Notes to Consolidated Financial Statements" for additional details about this line of credit. When the Credit Facility was first entered into, ManTech International Corp. provided a one-year \$900,000 standby letter of credit to the bank as additional collateral for the Company's Credit Facility and a limited guarantee totaling \$900,000. In July 2000, ManTech's guarantee was converted into a second one-year \$900,000 standby letter of credit to the bank, which was also used as additional collateral for the Company's Credit Facility. GSE was allowed to borrow up to 100% of the value of these two letters of credit.

The loan and security agreement requires the Company to comply with certain financial ratios. At December 31, 2000, the Company was not in compliance with its minimum EBITDA (earnings before interest, taxes, depreciation and amortization) covenant, its minimum working capital covenant, its tangible net worth covenant, or its total liabilities to tangible net worth covenant. The bank has provided a written waiver of the financial covenant violations as well as certain covenant modifications to help position the Company for future compliance. Effective with the execution of the waiver, the bank increased the interest rate on outstanding borrowings under the credit facility to the bank's prime rate plus .75% (8.75% at March 31, 2001).

In the fourth quarter of 2000, the Company issued a demand promissory note to ManTech International Corporation that allowed the Company to borrow up to \$1.8 million at an interest rate of prime plus one percent. As of December 31, 2000, the Company had borrowed \$1.6 million, which was used for working capital. The promissory note was secured by the Company's pledge of its equity interest in Avantium International B.V., but such security interest was subordinate to the first lien thereon by the Company's bank. In the first quarter of 2001, the promissory note was amended to increase the maximum principal amount to \$2.1 million. Subsequently in the first quarter of 2001, and with ManTech's approval, the Company issued a replacement promissory note in the amount of \$2.1 million to ManTech pursuant to which the Company's obligations to ManTech became unsecured, and the principal is payable ver a two year period, in equal installments, commencing April 1, 2004 with interest payments to commence monthly on July 1, 2001. The note permits ManTech to convert the principal into GSE convertible preferred stock at a conversion rate of \$100 per share, pending shareholder approval. ManTech has agreed to subordinate the note to the Company's Credit Facility.

Other. As of December 31, 2000, the Company was contingently liable for five letters of credit totaling \$533,000. All of these letters of credit represent payment bonds on contracts and have been cash collateralized.

#### 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.

#### New Accounting Standards.

Effective January 1, 2001, the Company will adopt Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities" and No. 138 "Accounting for Certain Derivative Investments and Certain Hedging Activities." These statements require 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 adoption of these standards, including the valuation of derivative instruments outstanding on the effective date, will not have a material impact on the Company's consolidated financial statements.

#### Other Matters.

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

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

The Company's market risk is principally confined to changes in foreign currency exchange rates and potentially adverse effects of differing tax structures. The Company's exposure to foreign exchange rate fluctuations arises in part from inter-company accounts in which costs incurred in one entity are charged to other entities in different foreign jurisdictions. The Company is also exposed to foreign exchange rate fluctuations as the financial results of all foreign subsidiaries are translated into U.S. dollars in consolidation. As exchange rates vary, those results when translated may vary from expectations and adversely impact overall expected profitability.

The Company is also subject to market risk related to the interest rates on its existing line of credit. As of March 31, 2001, such interest rates are based on the prime rate plus three-quarters point.

As of December 31, 2000, \$10.8 million of the Company's debt was subject to variable interest rates. A 100 basis-point change in such rates during the year ended December 31, 2000 would have increased the Company's interest expense by approximately \$78,000.

## ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

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#### INDEPENDENT AUDITORS' REPORT

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

We have audited the accompanying consolidated balance sheet of GSE Systems, Inc. as of December 31, 2000, and the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity and cash flows for the year then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of GSE Systems, Inc. and subsidiaries as of December 31, 2000, and the results of their operations and their cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

/s/KPMG LLP

Baltimore, Maryland March 30, 2001

#### REPORT OF INDEPENDENT ACCOUNTANTS

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

In our opinion, the consolidated balance sheet as of December 31, 1999, and the related consolidated statments of operations, of comprehensive income (loss), of changes in stockholders' equity and cash flows for each of the two years in the period ended December 31, 1999 (appearing on pages F3 through F27 of the GSE Systems, Inc. 2000 Annual Report on this Form 10-K) present fairly, in all material respects, the financial position, results of operations and cash flows of GSE Systems, Inc. and its subsidiaries at December 31, 1999, and for each of the two years in the period ended December 31, 1999, in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, 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 statement, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion. We have not audited the consolidated financial statements of GSE Systems, Inc. for any period subsequent to December 31, 1999.

/s/PricewaterhouseCoopers LLP

McLean, Virginia February 29, 2000 \_\_\_\_\_\_

PART I - FINANCIAL INFORMATION Item 1. Financial Statements

# GSE SYSTEMS, INC. AND SUBSIDIARIES CONSOLIDATED BALANCE SHEETS (in thousands, except share data)

	Decembe	er 31,
	2000	1999
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,465	\$ 2,695
Restricted cash	30	255
Contract receivables	14,489	16,881
Inventories	1,587	3,255
Prepaid expenses and other current assets	2,520	2,207
Deferred income taxes	277	146
Total current assets	20,368	25,439
Investment in Avantium Technologies B.V.	2,895	_
Property and equipment, net	2,299	3,094
Software development costs, net	5,067	5,395
Goodwill, net	2,996	2,949
Deferred income taxes	847	3,251
Restricted cash	503	480
Other assets	974	2,419
Total assets	\$ 35,949	\$ 43,027
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	\$ 2,347	\$ 1,938
Accounts payable	5,669	5,024
Accrued expenses	2,115	3,965
Accrued compensation and payroll taxes	1,940	1,539
Billings in excess of revenue earned	1,366	3,077
Accrued warranty reserves	462	620
Income taxes payable	171	30
Other current liabilities	776	581
Total current liabilities	14,846	16,774
Long-term debt	11,840	8,403
Accrued warranty reserves	550	680
Total liabilities	27,236	25,857
Commitments and contingencies	·	,
Stockholders' equity:		
Common stock \$.01 par value, 8,000,000 shares authorized, shares issued and		
outstanding 5,193,527 in 2000 and 5,065,688 in 1999	52	50
Additional paid-in capital	22,230	21,691
Retained earnings (deficit) - at formation	(5,112)	(5,112)
Retained earnings (deficit) - since formation	(7,555)	1,259
Accumulated other comprehensive loss	(902)	(718)
Total stockholders' equity	8,713	17,170
Total liabilities and stockholders' equity	\$ 35,949	\$ 43,027

	Years ended December 31,		
	2000	1999	1998
Contract revenue	\$ 55,715	\$ 66,699	\$ 73,818
Cost of revenue	40,822	41,629	49,814
Gross profit	14,893	25,070	24,004
Operating expenses Selling, general and administrative Depreciation and amortization Total operating expenses	17,853 1,695 19,548	22,646 1,680 24,326	20,345 1,768 22,113
Operating income (loss)	(4,655)	744	1,891
Gain (loss) on sales of assets Interest expense, net	(990) (687)	- (450)	550 (350)
Other income, net	55	40	326
Income (loss) before income taxes	(6,277)	334	2,417
Provision for income taxes	2,537	233	1,020
Net income (loss)	\$ (8,814)	\$ 101	\$ 1,397
Basic earnings (loss) per common share	\$ (1.70)	\$ 0.02	\$ 0.28
Diluted earnings (loss) per common share	\$ (1.70)	\$ 0.02	\$ 0.27

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

Years ended December 31,

	2000	1999	1998
Net income (loss)	\$ (8,814)	\$ 101	\$ 1,397
Foreign currency translation adjustment	(184)	(33)	(532)
Comprehensive income (loss)	\$ (8,998)	\$ 68	\$ 865

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

			Retained	Retained Earnings		Accumulated			
	Com	mon		Additional	(Defi	cit)		Other	
	Stock		Paid-in	At	Since	ince Comprehensi		nsive	
	Shares		Amount	Capital	Formation	Formation	ı	Loss	Total
Balance, January 1, 1998	5,066	\$	50	\$ 21,378	\$ (5,112)	\$ (239)	\$	(153)	\$ 15,924
Foreign currency translation adjustment								(532)	(532)
Fair value of warrants issued to non-employees				300					300
Net income						1,397			1,397
Balance, December 31, 1998	5,066		50	21,678	(5,112)	1,158		(685)	17,089
Foreign currency translation adjustment								(33)	(33)
Fair value of warrants issued to non-employees				13					13
Net income						101			101
Balance, December 31, 1999	5,066		50	21,691	(5,112)	1,259		(718)	17,170
Common stock issued for options exercised	11			40					40
Common stock issued to ManTech Intl. Corp	117		2	499					501
Foreign currency translation adjustment								(184)	(184)
Net loss						(8,814)			(8,814)
Balance, December 31, 2000	5,194	\$	52	\$ 22,230	\$ (5,112)	\$ (7,555)	\$	(902)	\$ 8,713

## GSE SYSTEMS, INC. AND SUBSIDIARIES

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Years ended December 31,		
	2000	1999	1998
Cash flows from operating activities:			
Net income (loss)	\$(8,814)	\$ 101	\$ 1,397
Depreciation and amortization	3,882	3,481	3,492
Foreign currency transaction gain	(255)	(40)	(326)
Fair value of warrants issued to non-employees		133	180
Avantium Technologies B.V	(2,895)		
Deferred income taxes	2,273	119	301
(Gain) loss on sales of assets	990		(550)
Changes in assets and liabilities:			
Contract receivables	1,939	4,382	(2,599)
Inventories	1,554	(363)	(185)
Prepaid expenses and other assets	(164)	(563)	(1,381)
Accounts payable, accrued compensation and accrued expenses	(690)	(1,888)	(2,600)
Billings in excess of revenues earned	(1,599)	(3,282)	83
Accrued warranty reserves	(288)	(142)	102
Other liabilities	(561)	744	1,428
Income taxes payable	141	(121)	(114)
Net cash provided by (used in) operating activities	(4,487)	2,561	(772)
Cash flows from investing activities:			
Proceeds from sale of assets		731	9,697
Net cash paid for acquisition of businesses	(658)	(930)	==
Net cash sold in disposition of business	(261)	==	
Capital expenditures	(472)	(1,398)	(2,061)
Capitalized software development costs	(1,868)	(2,460)	(2,304)
Net cash provided by (used in) investing activities	(3,259)	(4,057)	5,332
Cash flows from financing activities:			
Proceeds from issuance of common stock	542		
Proceeds from issuance of note payable to related party	1,550		
Proceeds from issuance of notes payable	458		
(Restrictions) releases of cash as collateral under line of credit, net	202	(735)	
Increase (decrease) in borrowings under lines of credit	3,044	(513)	(2,287)
Proceeds from assignments of sales-type leases	1,141	3,432	
Other financing repayments	(346)	(160)	(277)
Net cash provided by (used in) financing activities	6,591	2,024	(2,564)
Effect of exchange rate changes on cash	(75)	(73)	(90)
Net increase (decrease) in cash and cash equivalents	(1,230)	455	1,906
Cash and cash equivalents at beginning of year	2,695	2,240	334
Cash and cash equivalents at end of year	\$ 1,465	\$ 2,695	\$ 2,240

#### GSE SYSTEMS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS December 31, 2000, 1999, and 1998

## 1. Business and liquidity

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

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

During the year ended December 31, 2000, the Company incurred significant operating losses which resulted in non-compliance with certain financial covenants included in the Company's bank credit facility. The Company has obtained a waiver of the financial covenant defaults as well as certain covenant modifications to help position the Company for future compliance. Nevertheless, future compliance will depend upon achieving significantly improved operating results during 2001 and beyond.

Management has undertaken a number of initiatives during 2000 and 2001 to improve operating results and cash flows including:

- (i) The restructuring of the Process business unit to reduce operating costs. Actions taken in 2000 included (a) personnel reductions; (b) the outsourcing of Process' manufacturing and assembly operations; and
- (c) the sale of Process' unprofitable Belgian subsidiary to Newton Integrated Services, B.V. of the Netherlands. Included in operating results for the year ended December 31, 2000 are revenues of \$1.5 million and operating losses, before allocation of corporate expenses, of \$308,000 attributable to GSE Process Solutions N.V.
- (ii) The sale of the Company's VirtualPlant business to Avantium International B.V.("Avantium"). The asset sale closed on March 6, 2001 and included certain fixed assets of the Company, intellectual property, and the employment of certain personnel in both the US and UK by Avantium. GSE received 8% of Avantium's stock, thus increasing its holdings in Avantium to approximately 18%. For the year ended December 31, 2000, the Company's VirtualPlant business had revenues of \$6.1 million and an operating loss before allocation of corporate expenses of \$3.4 million.
- (iii) ManTech International Corporation ("ManTech")has agreed to allow the Company's bank to draw upon ManTech's \$1.8 million letter of credit which supports the Company's credit facility, thus paying down a portion of the Company's bank debt, in exchange for additional subordinated debt in the Company. (See Note 16, Related party transations, in the "Notes to Consolidated Financial Statements.)

Management believes the initiatives undertaken will enable the Company to maintain compliance with the revised bank financial covenants as well as provide sufficient cash flow to meet the Company's obligations as they become due. However, if the initiatives are not successful or if there are unforeseen decreases in demand for the Company's products or increases in working capital needs the Company may be unable to meet the revised bank financial covenants and/or to generate sufficient cash flows from operations. In such case, the Company will be required to obtain additional covenant modifications and additional sources of funding. There can be no assurance that such covenant modifications or funding, if needed, will be available.

#### 2. Summary of significant accounting policies

## Principles of consolidation

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

#### Accounting estimates

The preparation of financial statements in conformity with 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.

#### 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 effect of changes in estimates of contract earnings was to increase gross profit by approximately \$353,000 during the year ended December 31, 1999. Such changes were not material during the years ended December 31, 1998 and 2000. Revenues from certain consulting or training contracts are recognized on a time-and-material basis. For time-and-material type contracts, revenue is recognized based on hours incurred at a contracted labor rate plus expenses.

## Cash and cash equivalents

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

#### **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.

#### 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 are eliminated from the respective accounts and any resulting gain or loss is included in operations. Maintenance and repairs are charged to expense as incurred.

## Software development costs

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

## 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 \$1,679,000, \$2,915,000, and \$2,051,000, for the years ended December 31, 2000, 1999, and 1998, respectively.

## Asset impairment

The Company periodically evaluates the recoverability of its long-lived assets by comparing the carrying value of the intangible 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. Impairments are recognized in operating results to the extent that the carrying value exceeds fair value. No impairment losses were recognized in 2000, 1999, or 1998.

#### Goodwill

Goodwill represents the excess of purchase price for acquired businesses 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. The Company assesses the recovery of goodwill by determining whether amortization of goodwill over its remaining life can be recovered through undiscounted cash flows of the acquired operations. Goodwill impairment, if any, is measured by determining the amount by which the carrying value of goodwill exceeds its fair value based upon discounting of future cash flows.

## 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 other income (expense) in the Consolidated Statements of Operations in the period in which they occur. For the years ended December 31, 2000, 1999, and 1998, foreign currency transaction gains were approximately \$55,000, \$40,000, and \$326,000, respectively.

#### Warranties

As the Company recognizes revenue under the percentage-of-completion method, it provides an accrual for estimated future warranty costs based on historical 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 bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized. Provision is made for the Company's current liability for federal, state and foreign income taxes and the change in the Company's deferred income tax assets and liabilities. No provision has been made for the undistributed earnings of the Company's foreign subsidiaries as they are considered permanently invested. Amounts of undistributed earnings are not material to the overall consolidated financial statements.

## Earnings (loss) 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, 2000 because the effects of such items were anti-dilutive.

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

	Years ended December 31,			
	2000	1999	1998	
Weighted average shares outstanding - Basic	5,181,972	5,065,688	5,065,688	
Weighted average shares outstanding - Diluted	5,181,972	5,351,474	5,107,428	

The difference between the amounts in 1999 and 1998 represents dilutive options and warrants to purchase shares of common stock computed under the treasury stock method, using the average market price during the related periods.

## Concentration of credit risk

The Company is subject to concentration of credit risk with respect to contract receivables. Credit risk on contract receivables is mitigated by the nature of the Company's worldwide customer base and its credit policies. The Company's customers are not concentrated in any specific geographic region, but are concentrated in the energy and manufacturing industries. For the years ended December 31, 2000 and 1999, one customer accounted for approximately 22% and 13%, respectively, of the Company's revenues. At December 31, 2000, the contracts receivable balance related to this significant customer was approximately \$2.4 million, or 16.5% of that asset category, of which \$1 million was unbilled at year-end. In 2000, another customer accounted for approximately 11% of the Company's revenues. No single customer accounted for a significant (greater than 10%) amount of the Company's revenue during the year ended December 31, 1998.

## Fair values of financial instruments

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

## Off balance sheet risk and foreign exchange contracts

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.

## Reclassifications

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

### **New Accounting Standards**

Effective January 1, 2001, the Company will adopt Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities" and No. 138 "Accounting for Certain Derivative Investments and Certain Hedging Activities." These statements require 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 adoption of these standards, including the valuation of derivative instruments outstanding on the effective date, will not have a material impact on the Company's consolidated financial statements.

## 3. Acquisitions and dispositions

### Acquisitions

In April 1999, the Company completed two acquisitions for the Process business unit using the purchase method of accounting. The Company purchased certain assets and employed the associates of BatchCAD Limited, a United Kingdom-based supplier of batch process development and design consulting services and simulation software tools. The purchase price was approximately \$548,000 payable in cash in three equal installments on January 1, 2000, 2001 and 2002 and was allocated as follows (in thousands):

Purchased software (property and equipment)	\$ 481
Trade receivables	45
Property and equipment	22
Total purchase price	\$ 548
	=========

The Company also acquired all proprietary technology and software assets from, and assumed substantially all customer contracts of, Mitech Corporation, a Massachusetts-based supplier of neural network and artificial intelligence software. The purchase price was \$350,000 and was allocated 100% to property and equipment as purchased software.

In December 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 was 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. For the years ended December 31, 2000, 1999, and 1998, the contingent consideration in excess of the minimum guaranteed amount was approximately \$549,000, \$411,000, and \$166,000, respectively, which the Company has recorded as additions to goodwill.

## **Dispositions**

On November 30, 2000, the Company completed the sale of its GSE Process Solutions N.V. subsidiary ("GSE Belgium") to Newton Integrated Services B.V., pursuant to a stock purchase agreement, whereby Newton Integrated Services B.V. acquired all of the assets and assumed all of the liabilities of GSE Belgium. The aggregate purchase price for GSE Belgium was \$1. The Company recognized a loss before income taxes on this transaction of \$990,000. Included in the Consolidated Statement of Operations for the year ended December 31, 2000, are revenues of \$1.5 million and operating losses of \$346,000 attributable to GSE Belgium prior to the sale to Newton Integrated Services B.V.

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 recognized a loss before income taxes on this transaction 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 were sold. The Company received approximately \$742,000 in cash, subject to certain adjustments, and Valmet assumed certain identified liabilities. Included in the Consolidated Statement of Operations for the year ended December 31, 1998, are revenues of \$1.1 million and operating losses of \$721,000 attributable to O&G prior to the sale to Valmet. See Note 18, Segment information, for historical revenues and business unit contribution provided by O&G during 1998.

In May 1998, the Company completed the sale of substantially all of the assets of GSE Erudite Software, Inc. ("Erudite") to Keane, Inc. ("Keane"), pursuant to an Asset Purchase Agreement, dated as of April 30, 1998, by and among the Company, Erudite and Keane. The aggregate purchase price for the Erudite assets was approximately \$9.6 million (consisting of \$8.9 million in cash and \$731,000 in the form of an uncollateralized promissory note due on April 30, 1999). 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 wrote 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 were sold. The write-off of these costs is reflected in the calculation of the gain on the sale. Included in the Consolidated Statement of Operations for the year ended December 31, 1998, are revenues of \$5.3 million and operating losses of \$64,000 attributable to Erudite prior to the sale to Keane. See Note 18, Segment information, for historical revenues and business unit contribution provided by Erudite during 1998.

#### 4. Investment in Avantium International B.V.

On February 24, 2000, the Company licensed certain of its simulation software products to Avantium Technologies B.V. ("Avantium") in exchange for 251,501 shares of Avantium preferred stock, valued at \$2.5 million, and 352,102 shares of Avantium common stock, valued at \$349,000. The software license, which is perpetual in nature, gives Avantium the right to use the software in the development of new software products. Each share of preferred stock is convertible into common stock. Subject to certain restrictions, in the event that Avantium has not conducted an initial public offering (or been purchased) within five years, the Company and certain other holders of preferred shares may, at their option, have their shares redeemed by Avantium, for the greater of

(i) the original purchase price plus 8% interest compounded annually plus any accrued and unpaid dividends whether or not declared, or (ii) the fair market value of the shares on an as-if-converted-into-common-shares-basis plus any accrued and unpaid dividends.

Avantium was formed to develop high-speed experimentation and simulation ("HSE&S") technologies for application in new product and process development in pharmaceutical, petrochemical, fine chemical, biotechnology and polymers industries. Avantium expects to develop HSE&S technologies through in-house development and contract research at leading universities, hardware developers and informatics companies. Avantium has various investors, including Shell International Chemical, SmithKline Beecham, W.R. Grace, three major European universities and two venture capital firms.

During the year ended December 31, 2000, the Company recognized software-licensing revenue of \$2.9 million based on the fair value of the consideration received from Avantium. The fair value was established based on cash paid by other investors for their respective preferred and common stock interests in Avantium. The Company has delivered all elements of the software and has no other obligations to Avantium, other than standard warranty. The Company will account for its investment in Avantium using the cost method of accounting based on management's conclusion that the Company does not have significant influence with respect to the operations of Avantium. During the year ended December 31, 2000, the Company also received an additional \$2.9 million contract from Avantium to make certain improvements and enhancements to the software on a best efforts basis. The rates and margins in the contract are comparable to those the Company earns performing services for its existing customers.

As a result of the experience with Avantium in 2000, the Company concluded that a combination of the relevant interests of the two companies would significantly increase the potential of both organizations. In addition, focusing the technical and marketing resources of Avantium and the GSE VirtualPlant team would produce significant cost savings. Accordingly, in November 2000, the Company signed a letter of intent to sell its VirtualPlant business to Avantium. See Note 21, Subsequent events, for the details of the sale which was sale which was finalized in 2001.

#### 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. Recoverable costs and accrued profit not billed, represent costs incurred and associated profit accrued on contracts that will become billable upon future milestones or completion of contracts. The components of contract receivables are as follows:

(in thousands)	December	31,
	2000	1999
Billed receivables	\$ 9,265	\$ 9,797
Recoverable costs and accrued profit not billed	5,548	7,593
Allowance for doubtful accounts	(324)	(509)
Total contract receivables	¢ 14 489	<b>ጎ 16 ጸጸ1</b>

#### 6. Inventories

Inventories consist of the following:

(in thousands)	December 31,
	2000 1999
Raw materials	\$ 1,084 \$ 2,536
Service parts	503 719
Total inventories	\$ 1,587

# 7. Prepaid expenses and other current assets

Prepaid expenses and other current assets consist of the following:

(in thousands)	Decem	ber 31,
	2000	1999
Investment in sales-type lease - current portion	\$ 1,617	\$ 1,137
Prepaid expenses	459	641
Employee advances	66	98

Other current assets	378	331
Total	\$ 2.520	\$ 2.207

## 8. Property and equipment

Property and equipment consist of the following:

(in thousands)		mber 31,
	2000	1999
Computer equipment	\$ 5,106	\$ 7,820
Leasehold improvements	847	817
Furniture and fixtures	2,065	2,944
	8,018	11,581
Accumulated depreciation and amortization	(5,719)	(8,487)
Property and equipment, net	\$ 2,299	\$ 3,094

Depreciation and amortization expense was approximately \$1,163,000, \$1,292,000, and \$1,218,000 for the years ended December 31, 2000, 1999, and 1998, respectively.

The Company has assets held under capital lease totaling approximately \$380,000 and \$404,000 as of December 31, 2000 and 1999, respectively. Accumulated amortization on these assets, included in accumulated depreciation and amortization, was approximately \$380,000 and \$386,000 as of December 31, 2000 and 1999, respectively.

#### 9. Software development costs

Software development costs, net, consist of the following:

(in thousands)	December 31,	
	2000	1999
Capitalized software development costs	\$9,419	\$9,888
Accumulated amortization	(4,352)	(4,493)
Software development costs, net	\$ 5,067	\$ 5,395

Software development costs capitalized were approximately \$1,869,000, \$2,460,000, and \$2,304,000 for the years ended December 31, 2000, 1999, and 1998, respectively. Amortization of software development costs capitalized, excluding write-offs in connection with asset dispositions and retirements, was approximately \$2,202,000, \$1,801,000, and \$1,909,000 for the years ended December 31, 2000, 1999, and 1998, respectively, and were included in cost of revenue.

#### 10. Goodwill

Goodwill consists of the following:

(in thousands)	Decem	ber 31,
	2000	1999
Goodwill, at cost	\$ 4,796	\$ 4,287
Accumulated amortization	(1,800)	(1,338)
Goodwill, net	\$ 2,996	\$ 2,949

Amortization expense for goodwill was approximately \$528,000, \$388,000, and \$365,000 for the years ended December 31, 2000, 1999, and 1998, respectively.

#### 11. Long-term Debt

The Company's long-term debt consists of the following notes payable and other financing arrangements:

(in thousands)	Decembe	er 31,
	2000	1999
Line of credit with bank	\$ 9,277	\$ 6,233
Obligations under financing leases	2,261	2,465
Notes payable to related parties (see Note 16)	1,674	149
Notes payable, acquisitions	489	1,148
Notes payable, other	486	336
Other	_	10
Total notes payable and financing arrangements	14,187	10,341
Less amounts payable within one year	2,347	1,938
Long-term portion	\$ 11,840	\$ 8,403

#### **Line of Credit**

The Company has a \$10.0 million bank line of credit (the "Credit Facility") under which the Company and its subsidiaries, GSE Process Solutions, Inc. and GSE Power Systems, Inc., are jointly and severally liable as co-borrowers. The Credit Facility provides for borrowings to support working capital needs and foreign letters of credit (\$2.0 million sublimit). The line is collateralized by substantially all of the Company's assets and provides for borrowings up to 85% of eligible accounts receivable, 50% of eligible unbilled receivables and 40% of eligible inventory (up to a maximum of \$1.2 million). In addition, ManTech International Corp. provided \$1.8 million in standby letters of credit to the bank as additional collateral for the Company's Credit Facility. The Company is allowed to borrow up to 100% of the letter of credit value. GP Strategies Corporation has provided a limited guarantee totaling \$1.8 million. The interest rate on this line of credit is based on the bank's prime rate (9.5% as of December 31, 2000), with interest only payments due monthly. At December 31, 2000, the Company's available borrowing base was approximately \$10 million, of which approximately \$9.3 million had been utilized.

The loan and security agreement requires the Company to comply with certain financial ratios and precludes the Company from paying dividends and making acquisitions beyond certain limits without the bank's consent. At December 31, 2000, the Company was not in compliance with its minimum EBITDA (earnings before interest, taxes, depreciation and amortization) covenant, its minimum working capital covenant, its tangible net worth covenant or its total liabilities to tangible net worth covenant. The bank has provided a written waiver of the financial covenant violations as well as certain covenant modifications to help position the Company for future compliance. Effective with the execution of the waiver, the bank increased the interest rate on outstanding borrowings under the credit facility to the bank's prime rate plus .75%.

#### Obligations under financing leases

In December 1998, March 1999, October 2000 and November 2000, the Company entered into four separate contracts with a customer for the lease of certain hardware and software under 36-month leases. The Company has accounted for the leases as sales-type leases. The Company assigned the payments due under the sales-type leases to a third-party financing company and received proceeds of \$1,141,000 in 2000 and \$3,432,000 in 1999. Since the Company remains contingently liable for amounts due to the third-party financing company, the remaining investment in and obligation under the financing leases are reflected in the Company's balance sheets as follows:

(in thousands)	Decembe	er 31,
	2000	1999
Net investment in sales-type leases:		
Prepaid expense and other assets	\$ 1,617	\$ 1,137
Other assets	644	1,328
Total net investment	\$ 2,261	\$ 2,465
Obligation under financing leases:		
Current portion of long-term debt	\$ 1,617	\$ 1,137
Long-term debt	644	1,328
Total obligations	\$ 2,261	\$ 2,465

Minimum rentals receivable under these leases at December 31, 2000 amount to \$1,783,000 in 2001, \$456,000 in 2002, and \$342,000 in 2003. As of December 31, 2000, the components of the net investment in the sales-type leases are total minimum rentals receivable of \$2,581,000, less unearned interest income of \$320,000.

#### Debt maturities

Aggregate maturities of debt outstanding at December 31, 2000 are as follows:

(in thousands)	
2001	\$ 2,347
2002	2,179
2003	9,597
2004	18

2005	18
2006 and thereafter	28
Total	\$ 14,187

## 12. Income taxes

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

(in thousands)	Years	ended December	31,
	2000	1999	1998
Domestic	\$ (6,295)	\$ (1,386)	\$ 1,379
Foreign	18	1,720	1,038
Total	\$ (6,277)	\$ 334	\$ 2,417

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

(in thousands)	Years ended December 31,			
	2000	1999	1998	
Current:				
Federal	\$ (177)	\$ -	\$ -	
State	75	30	157	
Foreign	366	84	257	
Subtotal	264	114	414	
Deferred:				
Federal	2,543	(88)	556	
State	-	=	-	
Foreign	(270)	207	50	
Subtotal	2,273	119	606	
Total	\$ 2,537	\$ 233	\$ 1,020	

The 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:

	Effective tax rate percentage (				
	Years ended December 31,				
	2000	1999	1998		
Statutory U.S. tax rate	(34.0)%	34.0 %	34.0 %		
State income tax, net of federal tax benefit	0.8	2.7	2.7		
Effect of foreign operations	1.5	7.1	(2.2)		
Gain on debt forgiveness of foreign entities	<del>-</del>	(115.4)	=		
Change in valuation allowance	68.4	=	(0.8)		
Adjustments to prior year provision based					
on actual 1998 tax return amounts	<del>-</del>	97.6	-		
Other, principally permanent differences	3.7	43.8	8.5		
Effective tax rate	40.4 %	69.8 %	42.2 %		

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

(in thousands)	December 31,		
	2000	1999	
Net operating loss carryforwards	\$ 6,240	\$ 4,563	
Software development costs	(1,860)	(1,980)	
Expenses not currently deductible for tax purposes	1,344	1,165	
Foreign tax credits	339	362	
Property and equipment	240	326	
Swedish tax deferral	(270)	(299)	
Accrued expenses	267	109	
Cash to accrual adjustment	_	(29)	
Other	174	238	
Subtotal	6,474	4,455	
Valuation allowance	(5,350)	(1,058)	
Total	\$ 1,124	\$ 3,397	

At December 31, 2000, the Company had available \$15,497,000 and \$2,068,000 of domestic and foreign net operating loss carryforwards, respectively, which expire between 2007 and 2020. In addition, the Company had \$339,000 of foreign tax credit carryforwards, which expire between 2000 and 2004. 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 Company's 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.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities and projected future income in making this assessment. Based upon the level of historical taxable income generated by the Company's Process and Power business units and projections for taxable income in fiscal 2001, management believes it is more likely than not that the Company will realize the benefits of these deductible differences, net of the valuation allowance at December 21, 2000.

#### 13. Capital stock

As of December 31, 2000, the Company had 10,000,000 total shares of capital stock authorized, of which 8,000,000 are designated as common stock and 2,000,000 are designated as preferred stock. As of December 31, 2000 and 1999, there are no shares of preferred stock outstanding. The Board of Directors has the authority to establish one or more classes of preferred stock and to determine, within any class of preferred stock, the preferences, rights and other terms of such class.

In 1998, in connection with the Company's then existing credit facility, the Company had arranged for certain guarantees to be provided on its behalf by GP Strategies and ManTech. In consideration for these guarantees, the Company 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 150,000 shares of the Company's common stock at \$2.375 per share. In 1998, the Company recorded \$300,000 as the estimated fair value of such warrants in the consolidated financial statements and amortized such value over the life of the initial guarantee, which expired in June 1999. During 1999 and 1998, the Company recognized expense related to these warrants totaling \$120,000 and \$180,000, respectively.

#### 14. Stock options

#### Long term incentive plan

During 1995, the Company established the 1995 Long-Term Incentive Stock Option Plan (the "Plan"), which includes all officers, key employees and non-employee members of the Company's Board of Directors. All options to purchase shares of the Company's common stock under the Plan expire seven years from the date of grant and generally become exercisable in three installments with 40% vesting on the first anniversary of the grant date and 30% vesting on each of the second and third anniversaries of the grant date, subject to acceleration under certain circumstances. The Company had reserved 1,875,000 shares of common stock for issuance of stock options under the terms of the Plan. At December 31, 2000, the Company had 427,015 shares of common stock reserved for the future grants under the Plan.

Stock option activity under the Plan is as follows:

	2000		1999	)	1998	3
		Weighted		Weighted		Weighted
		Average		Average		Average
	Shares	Exercise Price	Shares	Exercise Price	Shares	Exercise Price
Options outstanding, beginning of period	1,167,605	\$ 4.93	535,206	\$ 5.93	595,015	\$ 6.89
Options exercised	(10,880)	(3.56)	-	-	-	-
Options canceled	(14,620)	(3.73)	(45,601)	(5.62)	(246,009)	(4.77)
Options granted	295,000	5.07	678,000	4.07	186,200	2.79
Options outstanding, end of period	1,437,105	\$ 4.81	1,167,605	\$ 4.93	535,206	\$ 5.93

The following table summarizes information relating to currently outstanding and exercisable options at December 31, 2000:

Oı	otions Outstanding	J	C	ptions Exercisable
Options Outstanding	Weighted Average Remaining Contract Life in Years	Weighted Average Exercise Price	Options Exercisable	Weighted Average Exercise Price
162,550	5.2	\$ 2.67	100,290	\$ 2.68
846,114	5.7	3.70	256,214	3.78
254,500	6.1	4.87	208,000	4.79
17,500	6.2	6.19	_	-
30,000	4.3	7.50	10,000	7.50
200	5.6	11.25	200	11.25
126,241	4.7	14.11	126,241	14.11
1,437,105	5.6	\$ 4.81	700,945	\$ 5.84
	Options Outstanding 162,550 846,114 254,500 17,500 30,000 200 126,241	Weighted Average Remaining Options Outstanding  162,550  846,114  5.7  254,500 6.1  17,500 6.2  30,000 4.3  200 5.6  126,241 4.7	Average Remaining Weighted Options Contract Average Outstanding Life in Years Exercise Price  162,550 5.2 \$ 2.67 846,114 5.7 3.70 254,500 6.1 4.87 17,500 6.2 6.19 30,000 4.3 7.50 200 5.6 11.25 126,241 4.7 14.11	Weighted Average Remaining Weighted Options Contract Average Options Outstanding Life in Years Exercise Price Exercisable  162,550 5.2 \$2.67 100,290 846,114 5.7 3.70 256,214 254,500 6.1 4.87 208,000 17,500 6.2 6.19 - 30,000 4.3 7.50 10,000 200 5.6 11.25 200 126,241 4.7 14.11 126,241

The Company accounts for grants under the Plan in accordance with Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations. Accordingly, no compensation expense has been recognized as all options granted under the Plan have been granted at an exercise price equal to the fair value of the underlying common stock on the date of grant. Had compensation expense been determined based on the fair value at the grant dates for awards under the Plan consistent with the fair value method of FAS No. 123, "Accounting for Stock Based Compensation," the Company's pro forma net income (loss), and basic and diluted earnings (loss) per common share would have been approximately (\$11.1 million) and (\$2.14), respectively, in 2000; (\$615,000) and (\$.12), respectively, in 1999; and \$900,000 and \$.18, respectively, in 1998.

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, 2000, 1999, and 1998: expected volatility of 110%, 82%, and 61%; dividend yield of 0%; risk-free interest rates ranging from 5.2% to 6.6%; and expected terms ranging from 3 to 7 years. The weighted-average fair value of options granted during 2000, 1999, and 1998 was \$3.93 per share, \$2.82 per share, and \$2.79 per share, respectively.

## 15. 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, 2000 are as follows:

(in thousands)	
2001	\$ 1,639
2002	1,406
2003	1,274
2004	1,287
2005	1,321
Thereafter	3,146
Total	\$ 10,073

Total rent expense under operating leases for the years ended December 31, 2000, 1999, and 1998 was approximately \$2,101,000, \$2,013,000, and \$2,134,000, respectively.

Letters of credit and performance bonds

As of December 31, 2000, the Company was contingently liable for approximately \$533,000 under five letters of credit used as payment bonds on contracts, all of which were secured by cash deposits classified as restricted cash in the consolidated balance sheet.

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 was held in escrow until April 2000, and approximately \$111,000 will be held in escrow until April 30, 2003. These deposits are classified as other assets in the Consolidated Balance Sheets at December 31, 2000 and 1999.

## 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.

#### 16. Related party transactions

In the fourth quarter of 2000, the Company issued a demand promissory note to ManTech International Corporation that allowed the Company to borrow up to \$1.8 million at an interest rate of prime plus one percent. As of December 31, 2000, the Company had borrowed \$1.6 million, which was used for working capital. The promissory note was secured by the Company's pledge of its equity interest in Avantium International B.V., but such security interest was subordinate to the first lien thereon by the Company's bank. In the first quarter of 2001, the promissory note was amended to increase the maximum principal amount to \$2.1 million. Subsequently in the first quarter of 2001, and with ManTech's approval, the Company issued a replacement promissory note in the amount of \$2.1 million to ManTech pursuant to which the Company's obligations to ManTech became unsecured, and the principal is payable over a two year period, in equal installments, commencing April 1, 2004 with interest payments to commence monthly on July 1, 2001. The note permits ManTech to convert the principal into GSE convertible preferred stock at a conversion rate of \$100 per share, pending shareholder approval. ManTech has agreed to subordinate the note to the Company's credit facility.

In January 2000, the Company issued 116,959 shares of its common stock, at fair value, to ManTech for \$500,000. The proceeds of the stock issuance were used for working capital.

#### 17. Employee benefits

The Company has a qualified defined contribution plan that covers substantially all U.S. employees under Section 401(k) of the Internal Revenue Code. Under this plan, the Company's stipulated basic contribution matches a portion of the participants' contributions based upon a defined schedule. Contributions are invested by an independent investment company in one or more of several investment alternatives. The choice of investment alternatives is at the election of each participating employee. The Company's contributions to the plan were approximately \$340,000, \$359,000, and \$468,000 for the years ended December 31, 2000, 1999, and 1998, respectively.

## 18. Segment information

The Company's two reportable segments are its core business units Process and Power. The Company's VirtualPlant business is reported under the Process segment. The accounting policies of the segments are the same as those described in Note 2, Summary of significant accounting policies. The Company is primarily organized on the basis of these two business units. The Company 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 for 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.

The Company evaluates the performance of its business units utilizing "Business Unit Contribution", which is substantially equivalent to earnings before interest and taxes before allocating any corporate expenses. The segment information regarding the divested businesses is also

included below (see Note 3, Acquisitions and dispositions, and Note 4, Investment in Avantium Ir	nternational B.V.).

The table below presents information about the reportable segments:

(in thousands)	Year ended	December 31,	2000
	Process	Power	Total
Contract revenue	\$ 25,208	\$ 30,507	\$ 55,715
Business unit contribution	\$ (4,053)	\$ 4,549	\$ 496
	Year ended	December 31,	1999
	Process	Power	Total
Contract revenue	\$ 34,638	\$ 32,061	\$ 66,699
Business unit contribution	\$ 1,026	\$ 5,093	\$ 6,119
	Year ended	December 31,	1998
	Process	Power	Total
Contract revenue	\$ 36,484	\$ 30,930	\$ 67,414
Business unit contribution	\$ 3,444	\$ 4,535	\$ 7,979

Contract revenues for the Process segment includes revenues for the Company's VirtualPlant and Belgian businesses of \$7.6 million for the year ended December 31, 2000. Business unit contribution for the Process segment includes losses for VirtualPlant and Belgium of \$3.7 million for the year ended December 31, 2000.

A reconciliation of segment revenue to consolidated revenue and segment business unit contribution to consolidated income before taxes for the years ended December 31, 2000, 1999, and 1998 is as follows:

(in thousands)	Years ended	December 31,	
	2000	1999	1998
Total segment contract revenue	\$ 55,715	\$ 66,699	\$ 67,414
Erudite	=	_	5,267
Oil & Gas	-	=	1,137
Contract revenue	\$ 55,715	\$ 66,699	\$ 73,818
Segment business unit contribution	\$ 496	\$ 6,119	\$ 7,979
Corporate expenses	(5,096)	(5,335)	(5,271)
Gain (loss) on disposition of assets	(990)	_	550
Erudite and Oil & Gas business unit losses	=	_	(491)
Interest expense, net	(687)	(450)	(350)
Income (loss) before taxes	\$ (6,277)	\$ 334	\$ 2,417

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

Year Ended December 31, 2000				
United States	Europe	Asia	Eliminations	Consolidated
\$ 44,441	\$11,274	\$ -	\$ -	\$ 55,715
· · ·			1 ( , ,	\$ 55,715
\$ (263) \$ 44,688	\$ (4,326)	\$ (66)	\$ (11,850)	\$ (4,655) \$ 35,949
	Year Ende	d December 3	31, 1999	
United States	Europe	Asia	Eliminations	Consolidated
\$ 60,150	\$ 6,549	\$ -	\$ -	\$ 66,699
832	223	-	(1,055)	-
\$ 60,982	\$ 6,772		\$ (1,055)	\$ 66,699
			· ·	\$ 744
\$ 47,001	\$ 4,568	\$ 414	\$ (8,956)	\$ 43,027
	Year Ende	d December 3	31, 1998	
United States	Europe	Asia	Eliminations	Consolidated
\$ 62,689	\$ 8,241	\$ 2,888	\$ -	\$ 73,818
1,761	423		(2,184)	
\$ 64,450	\$ 8,664	\$ 2,888	\$ (2,184)	\$ 73,818
			· ·	\$ 1,891
\$ 50,904	\$ 5,836	\$ 953	\$ (8,950)	\$ 48,743
	\$ 44,441	United States Europe  \$ 44,441 \$11,274 490 610 \$ 44,931 \$11,884 \$(263) \$(4,326) \$44,688 \$2,912   Year Ender Europe  \$ 60,150 \$ 6,549 832 223 \$60,982 \$6,772 \$1,690 \$(946) \$47,001 \$4,568  United States Europe  \$ 62,689 \$8,241 1,761 423 \$64,450 \$8,664 \$1,571 \$592	United States Europe Asia  \$ 44,441 \$11,274 \$ - 490 610	United States Europe Asia Eliminations  \$ 44,441 \$11,274 \$ - \$ - \$ - 490 610 - (1,100) \$ 44,931 \$11,884 \$ - \$ (1,100) \$ (263) \$ (4,326) \$ (66) \$ - \$ 44,688 \$ 2,912 \$ 199 \$ (11,850)   Year Ended December 31, 1999  United States Europe Asia Eliminations  \$ 60,150 \$ 6,549 \$ - \$ - \$ - 832 223 - (1,055) \$ 60,982 \$ 6,772 \$ - \$ (1,055) \$ 1,690 \$ (946) \$ - \$ - \$ - \$ 47,001 \$ 4,568 \$ 414 \$ (8,956)  United States Europe Asia Eliminations  \$ 62,689 \$ 8,241 \$ 2,888 \$ - \$ 1,761 423 (2,184) \$ 64,450 \$ 8,664 \$ 2,888 \$ (2,184) \$ 1,571 \$ 592 \$ (272) \$ - \$

(in thousands)	Years 2000	ended December	31,
Non-cash investing & financing activities:	2000	1999	1000
Obligations under capital leases	\$ -	\$ -	\$ 58
Asset acquisitions financed with debt to seller (see			
Note 3):			
Notes payable issued	\$ -	\$ 598	\$ 250
Software product license sold in exchange for stock of buyer (see Note 4):			
Value of asset acquired	\$ 2,895	\$ -	\$ -
Cash paid:			
Interest	\$ 889	\$ 481	\$ 580
Income taxes	\$ 271	\$ 683	\$ 426

#### 20. Quarterly financial data (unaudited)

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

(in thousands, except per share data)	Year ended	d December 31,	2000 Quarterly	Data
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Contract revenues Operating income (loss) Net income (loss)	\$ 15,124 1,135 537	\$ 13,300 (1,411) (902)	\$ 13,694 (1,249) (869)	\$ 13,597 (3,130) (7,580)
Earnings (loss) per common share:				
Basic	\$ 0.10	\$ (0.17)	\$ (0.17)	\$ (1.46)
Diluted	\$ 0.09	\$ (0.17)	\$ (0.17)	\$ (1.45)
	Year ended	d December 31,	1999 Quarterly	Data
	First	Second	Third	Fourth
	Quarter	Quarter	Quarter	Quarter
Contract revenues	\$ 17,578	\$ 17,987	\$ 15,587	\$ 15,547
Operating income (loss)	1,469	1,197	(1,011)	(911)
Net income (loss)	860	743	(727)	(775)
Earnings (loss) per common share:				
Basic	\$ 0.17	\$ 0.15	\$ (0.14)	\$ (0.16)
Diluted	\$ 0.17	\$ 0.14	\$ (0.14)	\$ (0.15)

The first quarter 200 includes contract revenues and related profit from the licensing of software to Avantium, as described in Note 4, Investment in Avantium International B.V.

The fourth quarter 2000 net loss includes the following significant charges: a \$710,000 provision to write-down Process inventory, a \$990,000 loss on the sale of the Company's Belgian subsidiary (see Note 3, Acquisitions and dispositions), and a \$4.3 million income tax charge to increase the deferred tax asset valuation allowance (see Note 12, Income taxes).

#### 21. Subsequent events

#### Sale of VirtualPlant business

On March 6, 2001, the Company sold its VirtualPlant business to Avantium International B.V. ("Avantium") purchased certain fixed assets and intellectual property (including BatchCAD and BatchWizard software products) of the Company, and employed certain personnel in both the US and the UK. GSE received 8% of Avantium's stock, thus increasing its holdings in Avantium to approximately 18%. GSE retains one seat on the supervisory board of Avantium. Also, the Company licensed their process control and simulation software ("GSE Process Software") exclusively to Avantium for the R&D market. This licensing arrangement includes free updates to the GSE Process Software. In return, GSE received a royalty-free license to use any upgrades of the GSE Process Software produced by Avantium in the manufacturing market. GSE also received a royalty-free license to use and produce upgrades of the BatchWizard software in the manufacturing market. Avantium and GSE will continue to work together in the marketplace and in product development so that common clients will be able to use Avantium's VirtualPlant technology to develop scalable products that will fit together at the manufacturing level with GSE's process control and simulation products.

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

## **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 2001 Annual Meeting of Shareholders.

#### 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

Independent Auditors' Report

Report of Independent Accountants Consolidated Balance Sheets as of December 31, 2000 and 1999 Consolidated Statements of Operations for the years ended December 31, 2000, 1999, and 1998

Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2000, 1999, and 1998 Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2000, 1999, and 1998 Consolidated Statements of Cash Flows for the years ended December 31, 2000, 1999, and 1998

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:

No current report on Form 8-K was filed by the Registrant with the Securities and Exchange Commission during the quarter ended December 31, 2000.

#### **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 / Chin-Our Jerry Jen
-----Chin-Our Jerry Jen
Chief Operating Officer 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.

Date: March 31, 2001

/ S / Chin-Our Jerry Jen

Chin-Our Jerry Jen, Chief Operating Officer
and President
(Principal Executive Officer)

/ S / JEFFERY G. HOUGH

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

Date: March 31, 2001

(Jerome I. Feldman, Chairman of the Board)
(Dr. Sheldon L. Glashow, Director)
(Scott N. Greenberg, Director)
(Joseph W. Lewis, Director)
(John A. Moore, Jr., Director)
(George J. Pedersen, Director)

By:/ S / JEFFERY G. HOUGH Jeffery G. Hough Attorney-in-Fact

A Power of Attorney, dated March 15, 2001, authorizing Jeffery G. Hough to sign this Annual Report on Form 10-K for the fiscal year ended December 31, 2000 on behalf of certain of the directors of the Registrant is filed as Exhibit 24 to this Annual Report.

#### **EXHIBIT INDEX**

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

Exhibit Exhibit Description of Exhibit Number Page

- 3. Articles of Incorporation and Bylaws
- a. Second Amended and Restated Certificate of Incorporation of the Company. Previously filed in connection with the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on April 24, 1995 and incorporated herein by reference.
- b. Form of Amended and Restated Bylaws of the Company. Previously filed in connection with Amendment No. 1 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on June 14, 1995 and incorporated herein by reference.
- 4. Instruments Defining Rights of Security Holders, including Indenture.
- a. Specimen Common Stock Certificate of the Company. Previously filed in connection with Amendment No. 3 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on July 24, 1995 and incorporated herein by reference.
- 10. Material Contracts
- a. Agreement among ManTech International Corporation, National Patent Development Corporation, GPS Technologies, Inc., General Physics Corporation, Vattenfall Engineering AB and GSE Systems, Inc. (dated as of April 13, 1994). Previously filed in connection with the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on April 24, 1995 and incorporated herein by reference.
- b. GSE Systems, Inc. 1995 Long-Term Incentive Plan, amended as of April 5, 1999. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 1999 and incorporated herein by reference. \*
- c. Form of Option Agreement Under the GSE Systems, Inc. 1995 Long-Term Incentive Plan. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 22, 1996 and incorporated herein by reference. \*
- d. Office Lease Agreement between Sterling Rutherford Plaza, L.L.C. and GSE Systems, Inc. (dated as of February 10, 1998). Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 21, 1998 and incorporated herein by reference.

#### Exhibit Exhibit Description of Exhibit Number Page

- e. Office Lease Agreement between Red Branch Road, L.L.C. and GSE Systems, Inc. (dated February 10, 1998). Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 21, 1998 and incorporated herein by reference.
- f. Loan and Security Agreement among GSE Systems, Inc., GSE Process Solutions, Inc., GSE Power Systems, Inc., and National Bank of Canada, dated March 23, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.
- g. \$10,000,000 Promissory Note dated March 23, 2000, from GSE Systems, Inc., GSE Process Solutions, Inc., and GSE Power Systems, Inc. to National Bank of Canada. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.
- h. ManTech International Corporation Guarantee to National Bank of Canada, dated March 23, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.
- i. GP Strategies, Inc. Guarantee to National Bank of Canada, dated March 23, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.
- j. Subscription and Shareholders' Agreement by and among Avantium International B.V., B.V. Licht en Kracht Maatschappij, SmithKline Beecham PLC, S.R. One, Limited, GSE Systems, Inc. Delft University of Technology, Universiteit Twente, Eindhoven University of Technology, the Generics Group Limited, and Alpinvest Holding NV, dated February 24, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.
- k. Software License and Intellectual Property Agreement between GSE Systems, Inc. and Avantium International B.V. dated February 24, 2000. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.
- 1. \$2,100,000 Replacement Promissory Note dated 10.1 X-10.1 March 30, 2001, from GSE Systems, Inc. to ManTech Internation Corporation
- m. Subordination and Intercreditor Agreement by and 10.2 X-10.2 between National Bank of Canada and ManTech International Corporation, dated March 30, 2001.
- n. Third Modification Agreement dated March 30, 2001 10.3 X-10.3 to the Loan and Sedurity Agreement among GSE Systems, Inc., and National Bank of Canada, dated March 23, 2000.
- 16. Letter regarding change in Certified Accountant
- a. Letter from PricewaterhouseCoopers, dated March 30, 2000, regarding change in certifying accountants. Previously filed in connection with the GSE Systems, Inc. Form 10-K as filed with the Securities and Exchange Commission on March 30, 2000 and incorporated herein by reference.
  - 21. Subsidiaries.
  - a. List of Subsidiaries of Registrant at December 31, 2000. 21.1 X-21.1-1

Exhibit

## **Exhibit Description of Exhibit Number Page**

- 23. Consents of Experts and Counsel
- a. Consent of Independent Accountants. 23.1 X-23.1-1
- b. Consent of Independent Accountants. 23.2 X-23.2-1
- 24. Power of Attorney
- a. Power of Attorney for Directors' and Officers' Signatures on SEC Form 10-K. 24.1 X-24.1-1
- 99. Additional Exhibits

- a. Form of Right of First Refusal Agreement. Previously filed in connection with Amendment No. 3 to the GSE Systems, Inc. Form S-1 Registration Statement as filed with the Securities and Exchange Commission on July 24, 1995 and incorporated herein by reference.
- \* Management contracts or compensatory plans required to be filed as exhibits pursuant to Item 14 (c) of this report.

# **End of Filing**



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