

FORM 1595

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05-02-2000



101340556

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

To the Honorable Commissioner of Patents and Trad.

1. Name of conveying party(ies):

GSE PROCESS SOLUTIONS, INC.

Additional name(s) of conveying
party(ies) attached? ☐ Yes ☒ No

3. Name of Conveyance:

☐ Assignment ☐ Merger
☒ Security Agreement ☐ Change of Name
☐ Other _____Execution Date: March 23, 2000

2. Name and address of receiving party(ies):

Name NATIONAL BANK OF CANADA

Internal Address: _____

Street Address: 401 East Pratt Street, Suite 631City BaltimoreState Maryland ZIP 21202Additional name(s) & addresses(es) attached?
☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

B. Patent No.(s) 5,917,730 AND 5,728,914

Additional numbers attached? ☐ Yes ☒ No5. Name and address of party to whom correspondence
concerning document should be mailed:Name: Bart G. Newland, Esq.Internal Address ROTHWELL, FIGG, ERNST & KURZ, P.C.Street Address: 555 13th Street, N.W., Suite 701 East TowerCity: WashingtonState: D.C. Zip 200046. Total number of applications
and patents involved: 27. Total fee (37 CFR 3.41): . . . \$ 80.00☒ Enclosed☐ Authorized to be charged to deposit account

8. Deposit account number:

02-2135Attach duplicate copy of this page if paying by
deposit account

05/01/2000 J3ALLAW2 00000022 5917730

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9. Statement and signature

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a
True copy of the original document.*Bart G. Newland, Reg. No. 31,282
Name of Person SigningBart G. Newland
SignatureApril 14, 2000
DateTotal number of pages including cover sheet, attachments and documents: 9**PATENT**
REEL: 010731 FRAME: 0502

PATENT SECURITY AGREEMENT

THIS PATENT SECURITY AGREEMENT ("AGREEMENT") is dated as of March 23, 2000 by and between GSE PROCESS SOLUTIONS, INC., a Delaware corporation ("PLEDGOR"), with its mailing address at 9189 Red Branch Road, Columbia, Maryland 21045; and NATIONAL BANK OF CANADA, a Canadian chartered bank ("LENDER"), with its mailing address at 401 East Pratt Street, Suite 631, Baltimore, Maryland 21202.

NOW, THEREFORE, FOR GOOD AND VALUABLE CONSIDERATION, the receipt and adequacy of which are hereby acknowledged, the PLEDGOR agrees with the LENDER as follows:

Section 1. Defined Terms. As used in this AGREEMENT, the terms set forth in this Section 1 have the meanings set forth below, unless the specific context of this AGREEMENT clearly requires a different meaning. Terms defined in this Section 1 or elsewhere in this AGREEMENT are in all capital letters throughout this AGREEMENT. The singular use of any defined term includes the plural and the plural use includes the singular.

a. "EVENT OF DEFAULT" means any event, condition, or omission, which, after the expiration of any applicable rights of notice or cure, constitutes a violation or default under the LOAN DOCUMENTS or pursuant to any other agreement executed from time to time by the PLEDGOR to or for the benefit of the LENDER which evidences or relates or pertains to any of the OBLIGATIONS.

b. "LOAN AGREEMENT" means the Loan and Security Agreement of even date herewith by and between the PLEDGOR, GSE Systems, Inc., a Delaware corporation, and GSE Power Systems, Inc., a Delaware corporation, and the LENDER, as the same may be amended, modified, extended, renewed, restated, supplemented, or replaced from time to time.

c. "LOAN DOCUMENTS" means all agreements, instruments and documents, including without limitation, loan agreements, notes, guaranties, pledges, security agreements, assignments, and all other written matter, whether heretofore, now, or hereafter executed by or on behalf of the PLEDGOR to or for the benefit of the LENDER, or by any obligor for obligations guaranteed by the PLEDGOR to the LENDER. Without limitation of the foregoing, the term "LOAN DOCUMENTS" includes the LOAN AGREEMENT.

d. "OBLIGATIONS" means the "OBLIGATIONS" as such term is defined in the LOAN AGREEMENT.

e. "PATENTS" means all right, title and interest of the PLEDGOR, whether now owned or existing or hereafter acquired or arising, in, to, under or by virtue of all patents and patent applications granted by or pending in the United States Patent and Trademark Office in the name of the PLEDGOR, including, without limitation, all of the inventions and improvements described or claimed therein, together with (a) any reissues, divisions, continuations, continuations-in-part, certificates of re-examination and extensions thereof, (b) all present and future rights of the PLEDGOR under all present and future license agreements relating thereto, whether the PLEDGOR is licensee or licensor thereunder, (c) all income, royalties, damages and payments now or hereafter

due or payable to the PLEDGOR thereunder or with respect thereto, including without limitation, damages and payments for past, present or future infringements thereof, (d) all present and future claims, causes of action, and rights to sue for past, present or future infringements thereof, (e) all general intangibles, proceeds and products related thereto, and (f) all rights corresponding thereto throughout the world. "PATENTS," as defined above shall include, without limitation, the United States patents and patent applications listed on Exhibit A attached hereto and incorporated herein by reference.

Section 2. Grant Of Security Interest. As security for the complete and timely payment, performance and satisfaction of all of the OBLIGATIONS, the PLEDGOR hereby mortgages, pledges, and hypothecates unto the LENDER and the LENDER'S successors and assigns, upon the following terms and conditions, and hereby grants to the LENDER and the LENDER'S successors and assigns, a security interest in and to all of the PLEDGOR'S right, title and interest in, under or by virtue of the PATENTS, whether now owned or existing or hereafter acquired, and in the products and proceeds thereof, provided that PLEDGOR does not mortgage, pledge, or hypothecate unto LENDER PLEDGOR'S rights as a licensee under any license agreement as to which such mortgage, pledge or hypothecation would constitute a breach of the terms of such license or license agreement. The security interests granted by the PLEDGOR to the LENDER hereunder shall automatically attached to and include all rights to any PATENTS which are subsequently obtained by the PLEDGOR after the date of this AGREEMENT or to any licenses thereof (but with respect to PLEDGOR'S rights as a licensee, only to the extent not prohibited under such licenses or license agreements). The PLEDGOR hereby irrevocably and unconditionally authorizes the LENDER to modify and amend from time to time this AGREEMENT and Exhibit A hereto to include any such additional PATENTS or licenses, without any further assent or signature of the PLEDGOR. Future advances are intended to be secured.

Section 3. Additional Patents. If, before the OBLIGATIONS shall have been satisfied in full, the PLEDGOR shall (a) obtain rights to any PATENTS not listed on EXHIBIT A, or to any licenses relating to any such PATENTS, or (b) become entitled to the benefit of any PATENT not listed on EXHIBIT A hereto or to the benefit of any license renewal, the security interest of the LENDER granted hereunder shall automatically attach thereto (provided that such security interest shall not attach to PLEDGOR'S rights as a licensee under any such license, license agreement or license renewal which prohibits the attachment of such security interest) and the other provisions of Section 2 shall automatically apply thereto and the PLEDGOR shall give prompt written notice thereof to the LENDER. The PLEDGOR irrevocably and unconditionally authorizes the LENDER to modify this AGREEMENT by amending Exhibit A to include any such additional PATENTS, without any further assent or signature of the PLEDGOR until the OBLIGATIONS have been satisfied in full. The PLEDGOR shall, promptly after request by the LENDER, and at the PLEDGOR'S expense, execute and deliver to the LENDER, in form and content reasonably satisfactory to the LENDER and in proper form for filing in the United States Patent and Trademark Office, such security agreements, assignments or other documents as may be reasonably required by the LENDER in order to reflect of record the LENDER'S interest therein pursuant to this AGREEMENT and the LOAN DOCUMENTS.

Section 4. Representations And Warranties. The PLEDGOR represents and warrants that:

a. Exhibit A hereto includes all PATENTS owned by the PLEDGOR as of the date hereof. Each of the PATENTS described on Exhibit A is subsisting, valid, unexpired and enforceable. None of such PATENTS has been adjudged invalid, expired or unenforceable in whole or in part. None of such PATENTS has been abandoned.

b. No claim has been made that the use of any of the PATENTS does or may violate the rights of any third person.

c. The PLEDGOR is the sole and exclusive owner of the entire unencumbered right, title and interest in and to each of the PATENTS, free and clear of any liens, charges and encumbrances, including without limitation pledges, security interests, assignments, licenses, franchise agreements, registered user agreements and covenants by the PLEDGOR not to sue third persons.

d. The PLEDGOR has the unqualified right to enter into this AGREEMENT and to perform its terms.

e. The PLEDGOR has used, and will continue to use for the duration of this AGREEMENT, proper statutory notice and markings in connection with its making, using or selling goods and/or processes or methods covered by the PATENTS.

Section 5. Maintenance of Patents; Prosecution Of Applications And Proceedings. The PLEDGOR shall maintain the registration of the MATERIAL PATENTS (as defined below), and shall take all actions necessary to maintain, preserve and continue the validity and enforceability of the MATERIAL PATENTS, including but not limited to the filing of applications for renewal, affidavits of use, affidavits of incontestability and institution and maintenance of opposition, concurrent use, interference and cancellation proceedings, and the payment of any and all application, renewal, extension or other fees. The PLEDGOR shall have the duty, through counsel acceptable to the LENDER, to prosecute diligently any PATENT applications of the MATERIAL PATENTS pending as of the date of this AGREEMENT or thereafter until the OBLIGATIONS shall have been paid in full, to make federal application on registrable but unregistered MATERIAL PATENTS, to file and prosecute opposition, concurrent use and cancellation proceedings and to do any and all acts which are necessary or desirable to preserve and maintain all rights in the MATERIAL PATENTS. The PLEDGOR shall not, without the express written consent of the LENDER, sell or assign its interest in, or grant any license under (except such licenses as are in the ordinary course of business), any of the MATERIAL PATENTS. The PLEDGOR shall not, without the LENDER'S prior written consent, enter into any agreement (for example, a license agreement) which is inconsistent with the PLEDGOR'S obligations under the LOAN DOCUMENTS, and the PLEDGOR further agrees that it shall not take any action, or permit any action to be taken by others subject to its control, including licensees, or fail to take any action, which would materially adversely affect the validity or enforcement of the rights transferred to the LENDER under this AGREEMENT. The PLEDGOR shall not abandon any MATERIAL PATENTS (including applications for MATERIAL PATENTS) without the express written consent of the LENDER. Any expenses incurred in connection with the PATENTS shall be borne by the PLEDGOR. The PLEDGOR hereby agrees to reimburse and

indemnify the LENDER for all damages, costs and expenses, including attorney's fees, incurred by the LENDER in the fulfillment of the provisions of this Section. For purposes hereof, "MATERIAL PATENTS" shall mean any and all PATENTS that are necessary for the material business operations of the PLEDGOR.

Section 6. Rights Upon The Occurrence Of An Event Of Default. Upon the occurrence of an EVENT OF DEFAULT, in addition to all other rights and remedies available under the LOAN DOCUMENTS or under applicable law, including but not limited to the rights of a secured party under the Uniform Commercial Code in effect from time to time in New York, the LENDER shall have the right at any time (but shall have no obligation) to: (a) take exclusive possession and/or place a custodian in exclusive possession of any or all of the PATENTS from time and to time; (b) take, in its name or in the name of the PLEDGOR or otherwise, such actions as the LENDER may, at any time or from time to time, deem necessary to maintain, protect, sell, liquidate, transfer, license, assign or otherwise dispose of or realize upon the PATENTS, upon such terms and conditions as it may deem advisable and at such prices as it may deem best, for cash or on credit or for future delivery without assumption of any credit risk; (c) use, operate, manage, and control the PATENTS in any lawful manner and (d) collect and receive all income, revenue, earnings, issues, and profits therefrom. Notice of any sale or other disposition shall be given to the PLEDGOR at least ten (10) days before the time of any intended public sale or of the time after which any intended private sale or other disposition of the COLLATERAL is to be made, which the PLEDGOR hereby agrees shall be commercially reasonable notice of such sale or other disposition. At any such sale or other disposition, the LENDER may, to the extent permissible under applicable law, purchase the whole or any part of the PATENTS, free from any right of redemption on the part of the PLEDGOR, which right is hereby waived and released to the extent lawfully permitted. The PLEDGOR shall remain liable for any deficiency if the proceeds of any sale or other disposition of the PATENTS are insufficient to pay in full the OBLIGATIONS and all costs and expenses, including reasonable attorneys' fees and disbursements, paid or incurred by the LENDER in collecting any such deficiency. The PLEDGOR hereby irrevocably and unconditionally authorizes and empowers the LENDER, upon the occurrence of an EVENT OF DEFAULT, to make, constitute and appoint any officer or agent of the LENDER as the LENDER may select, in its exclusive discretion, as the PLEDGOR'S true and lawful attorney-in-fact, with the power to endorse or sign the PLEDGOR'S name on all applications, documents, papers and instruments necessary for the LENDER or the designee of the LENDER to: (i) own and use the PATENTS; (ii) grant or issue any exclusive or nonexclusive licenses under the PATENTS to any other person; (iii) assign, license, pledge, convey or otherwise transfer title in or dispose of the PATENTS to any other person on such terms and conditions as the LENDER shall in its sole discretion determine; (iv) demand, sue for compromise, settle and collect and receive payment of and receipt for, any and all moneys, claims and other amounts due or to become due at any time in respect of or arising out of any of the PATENTS; (v) commence and prosecute any suits, actions or proceedings at law or in equity in any court of competent jurisdiction to collect or enforce any right in respect of the PATENTS; (vi) defend any suit, action or proceeding brought against the PLEDGOR with respect to any of the PATENTS; (vii) settle, compromise or adjust any of the aforesaid suits, actions or proceedings and, in connection therewith, to give such discharges as the LENDER may deem appropriate; and (viii) do all acts and things which the LENDER deems necessary from time to time to protect, preserve or realize upon the PATENTS and the LENDER'S liens thereon and to effect the intent of this AGREEMENT. The PLEDGOR hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof. This power of

attorney shall be irrevocable for the life of this AGREEMENT, and is intended by the PLEDGOR to be a power of attorney coupled with an interest. All of the LENDER'S rights and remedies with respect to the PATENTS, whether established by this AGREEMENT, by any LOAN DOCUMENT, or by law shall be cumulative and may be exercised singularly or concurrently.

Section 7. No Duty Imposed Upon Lender. The powers conferred upon the LENDER hereunder are solely to protect the interest of the LENDER in the PATENTS and shall not impose any duty upon the LENDER to exercise any such powers.

Section 8. Patent And Trademark Office And Third Parties May Rely Upon Pledgor's Authorizations To Lender. If the LENDER shall elect to exercise any of its rights hereunder, the United States Patent and Trademark Office shall have the right to rely upon the LENDER'S written statement of the LENDER'S right to sell, assign, license and transfer the PATENTS and the PLEDGOR hereby irrevocably and unconditionally authorizes the United States Patent and Trademark Office to recognize such sale by the LENDER either in the PLEDGOR'S name or in the LENDER'S name without the necessity or obligation of the United States Patent and Trademark Office to ascertain the existence of any default by the PLEDGOR under the LOAN DOCUMENTS.

Section 9. Costs And Expenses. Any and all fees, costs and expenses, of whatever kind or nature, including the reasonable attorney's fees and legal expenses incurred by the LENDER in connection with the preparation of this AGREEMENT and all other documents relating hereto and the consummation of this transaction, the filing or recording of any documents (including all taxes in connection therewith) in public offices, the payment or discharge of any taxes, counsel fees, maintenance fees, encumbrances or any other fees incurred in otherwise protecting, maintaining or preserving the PATENTS, or in defending or prosecuting any actions or proceedings arising out of or related to the PATENTS, shall be borne and paid by the PLEDGOR on demand by the LENDER and until so paid shall be added to the principal amount of the OBLIGATIONS and shall bear interest at the highest rate in effect from time to time under the LOAN DOCUMENTS.

Section 10. Notices. Notices that are required or permitted to be delivered hereunder shall be sufficient if in writing and sent to the addresses set forth in the LOAN AGREEMENT, in the manner and within the time specified in the LOAN AGREEMENT.

Section 11. No Further Assignment. The PLEDGOR shall not further assign, transfer, license or convey its interests in the PATENTS without the prior written consent of the LENDER, except that PLEDGOR may license the PATENTS in the ordinary course of its business.

Section 12. Further Assurances. The PLEDGOR shall promptly do, make, execute and deliver all such further and additional acts, things, deeds, assurances, instruments and documents considered reasonably necessary, appropriate or proper by the LENDER to vest in, effectuate assure to the LENDER its rights under this AGREEMENT or in any of the PATENTS. If the PLEDGOR fails to execute any instrument or document or take such actions described above within five (5) business days of being requested to do so by the LENDER, the PLEDGOR hereby constitutes and appoints the LENDER its attorney-in-fact to execute and file all such additional instruments and documents for the foregoing purposes, all lawful acts of such attorney being hereby ratified and confirmed; such power, being coupled with an interest, is irrevocable until the OBLIGATIONS have

been satisfied in full and there exists no contingent or noncontingent commitment which could give rise to any OBLIGATIONS.

Section 13. Amendment. The terms and conditions of this AGREEMENT may be modified, altered, waived, or amended only by a writing executed by the LENDER consenting to the modification, alteration, waiver, or amendment.

Section 14. Choice Of Law. This AGREEMENT shall be construed according to the laws of the State of New York. All parties hereto consent to the jurisdiction and venue of the courts of the State of Maryland and the State of New York in any action to enforce, construe or interpret this AGREEMENT

Section 15. Severability. If any of the provisions of this AGREEMENT are judicially determined to be in conflict with any law of the State of New York or otherwise judicially determined to be unenforceable for any reason whatsoever, such provision shall be deemed null and void to the extent of such unenforceability but shall be deemed separable from and shall not invalidate any other provision of this AGREEMENT.

Section 16. Successors And Assigns. The terms, covenants and conditions contained in this AGREEMENT shall inure to the benefit of the LENDER and its successors and assigns, and shall be binding upon the PLEDGOR and its successors and assigns.

Section 17. Waiver Of Jury Trial. The PLEDGOR and the LENDER each agree 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 hereto, with respect to this AGREEMENT, the LOAN DOCUMENTS, or any other document or agreement which in any way relates, directly or indirectly, to this AGREEMENT, the LOAN DOCUMENTS, the OBLIGATIONS or any event, transaction or occurrence arising out of or in any way connected with this AGREEMENT, the LOAN DOCUMENTS, 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. **THE PLEDGOR AND THE LENDER HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS TO A TRIAL BY JURY IN ANY SUCH SUIT, ACTION, OR PROCEEDING.** The PLEDGOR acknowledges and agrees that this provision is a specific and material aspect of the agreement between the parties hereto and that the LENDER would not enter into the subject transactions if this provision were not part of this AGREEMENT

IN WITNESS WHEREOF, the PLEDGOR has executed this AGREEMENT as of the date first above written with the specific intention of creating an instrument under seal.

WITNESS/ATTEST:

PLEDGOR:

GSE PROCESS SOLUTIONS, INC.

Jeffery G. Hough By: Jeffery G. Hough (SEAL)
Jeffery G. Hough
Senior Vice President

WITNESS/ATTEST:

LENDER:

NATIONAL BANK OF CANADA

Robert A. Incorvati By: R. A. Incorvati (SEAL)
Robert A. Incorvati,
Vice President

Michael E. Williams By: Michael E. Williams (SEAL)
Michael E. Williams,
Vice President/Manager

EXHIBIT A**Schedule Of Patents**

Patent Name	Number	Date	Inventor	If Foreign Patent, What Country?
Computer Implemented Object Oriented Visualization System and Method	U.S Patent No. 5,917,730	29 June 1999	Kevin J. Rittie Michael Chmielewski Jeffrey R. Walsh Alan MacAnespie	
Computer Implemented Process and Computer Architecture for Performance Analysis	U.S. Patent No. 5,726,914	10 March 1998	Joseph Janovski Pamela Y. Offutt Bruce E. Manthey Wayne L. Huff Philip A. Biggs	

RECORDED: 04/14/2000

PATENT
REEL: 010731 FRAME: 0510