

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	Not yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Francisco M. Gutierrez
Title	CHEMICAL INJECTION SYSTEM
Art Unit	N/A
Examiner Name	Not yet Assigned
Attorney Docket Number	255763; 11705.05602

SIGNATURE of Applicant or Patent Practitioner

Signature	/Michael J. Wasco/	Date (Optional)	December 22, 2014
Name	Michael J. Wasco	Registration Number	58,919
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

125443

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Dresser, Inc.

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature /jst50352/ Date (Optional)

Name Jonathan E. Thomas

Title Senior Counsel, Dresser, Inc.

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Substitute for form 1442/PTO

(Use as many sheets as necessary)

Complete if Known

Application Number	Not yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Francisco M. Gutierrez
Art Unit	N/A
Examiner Name	Not yet Assigned
Attorney Docket Number	255763; 11705.05602

Sheet 1 of 2

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ^{2 (if known)}			
	AA	US- 2009/0095351	04-2009	Greening et al	
	AB	US- 7,878,250	02-2011	Sheldon, Michael L.	
	AC	US- 7,711,486	05-2010	Thigpen et al	
	AD	US- 7,389,787	06-2008	Means et al	
	AE	US- 7,234,524	06-2007	Shaw et al	
	AF	US- 6,851,444	02-2005	Kohl et al.	
	AG	US- 2010/0304018 A1	12-02-2010	Achour et al	
	AH	US- 4,196,169 A	04-01-1980	Gabin et al	
	AI	US- 5,104,621 A	04-14-1992	Pfost	
	AJ	US- 5,108,703 A	04-28-1992	Pfost	
	AK	US- 5,125,748 A	06-30-1992	Bjornson et al	
	AL	US- 5,139,744 A	08-18-1992	Kowalski	
	AM	US- 5,333,675 A	08-02-1994	Mullis	
	AN	US- 5,411,065 A	05-02-1995	Meador	
	AO	US- 5,428,470 A	06-27-1995	Labriola	
	AP	US- 5,658,493 A	08-12-1997	Mullis	
	AQ	US- 5,772,963 A	06-30-1998	Cantatore	
	AR	US- 5,908,599 A	06-01-1999	Behringer	
	AS	US- 5,961,923 A	10-05-1999	Nova	

[illegible]

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	Not yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Francisco M. Gutierrez
Art Unit	N/A
Examiner Name	Not yet Assigned
Attorney Docket Number	255763; 11705.05602

Sheet 2 of 2**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AT	US- 6,063,339 A	05-16-2000	Tisone et al	
	AU	US- 6,093,574 A	07-25-2000	Druyor-Sanchez	
	AV	US- 6,416,713 B1	07-09-2002	Ford	
	AW	US- 6,644,848 B1	11-11-2003	Clayton et al	
	AX	US- 7,378,058 B2	05-27-2008	Lemme	
	AY	US- 7,815,871 B2	10-19-2010	Pamula	
	AZ	US- 7,939,017 B2	05-10-2011	Uffenheimer	
	BA	US- 7,939,021 B2	05-10-2011	Smith	
	BB	US- 7,939,584 B2	05-10-2011	Harris et al	
	BC	US- 8,012,768 B2	09-06-2011	Jafari	
	BD	US- 8,066,946 B2	11-29-2011	Redmond	
	BE	US- 8,147,773 B2	04-03-2012	Lemme	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Francisco M. Gutierrez et al.	Examiner:	Not yet Assigned
Appl. No.:	Not yet Assigned	Art Unit:	N/A
Filed:	Concurrently Herewith	Confirmation No.:	N/A
		Atty. Docket No.:	255763; 11705.05602

Title: **CHEMICAL INJECTION SYSTEM**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT (IDS)

Sir:

Pursuant to 37 C.F.R. §1.56, 1.97, and 1.98, Applicant(s) hereby direct the attention of the Patent and Trademark Office ("Office") to the references listed on the attached PTO/SB/08 form. Applicant(s) respectfully request that the Office expressly consider the information during the prosecution of this application, and that the Office make these references part of the record therein and, further, that these references appear among the "References Cited" on any patent that may issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

Copies of the references on the PTO/SB/08 form are not provided.

In accordance with 37 C.F.R. §1.97(g), filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. §1.56(a) exists. In accordance with 37 C.F.R. §1.97(h), filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication, or other information referred to therein is "prior art" for this invention unless specifically designated as such.

Applicant(s) submit that the Information Disclosure Statement is in compliance with 37 C.F.R. §1.98 and the Office is respectfully requested to consider the listed references.

Respectfully submitted,

PAUL FRANK + COLLINS P.C.

/Michael J. Wasco/

Michael J. Wasco
Reg. No.: 58,919
One Church Street
P.O. Box 1307
Burlington, VT 05402-1307
(802) 860.4121

Customer No.: 125443

Dated: December 22, 2014

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		CHEMICAL INJECTION SYSTEM		
First Named Inventor/Applicant Name:		Francisco M. Gutierrez		
Filer:		Michael J. Wasco		
Attorney Docket Number:		255763; 11705.05602		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1600

Electronic Acknowledgement Receipt	
EFS ID:	21035664
Application Number:	14579141
International Application Number:	
Confirmation Number:	7440
Title of Invention:	CHEMICAL INJECTION SYSTEM
First Named Inventor/Applicant Name:	Francisco M. Gutierrez
Customer Number:	125443
Filer:	Michael J. Wasco
Filer Authorized By:	
Attorney Docket Number:	255763; 11705.05602
Receipt Date:	22-DEC-2014
Filing Date:	
Time Stamp:	15:08:42
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1600
RAM confirmation Number	1555
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	012557631170505602Transmittal22December2014.pdf	1772531	no	2
			81f74e23d8a492d10ea6de77ccd89891b0f64e36		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	022557631170505602Fee22December2014.pdf	167849	no	2
			e1d4b8ddd1d935897d60ef79c7822120a88a2ce5		
Warnings:					
Information:					
3	Specification	032557631170505602Application22December2014.pdf	7390822	no	29
			b59644d97bc9ebbf313fd94d6594e82b2bb786ef		
Warnings:					
Information:					
4	Drawings-only black and white line drawings	042557631170505602Drawings22December2014.pdf	1158596	no	5
			7d029954b0882db512a7ee2892c6dd556f037703		
Warnings:					
Information:					
5	Oath or Declaration filed	052557631170505602Oath22December2014.pdf	1075862	no	5
			b6886cf81b85e6afd054d1d1323bc78b77c526f5		
Warnings:					
Information:					
6	Application Data Sheet	062557631170505602ADS22December2014.pdf	460085	no	7
			b67a8a74e3b079dc46800754e3d62ddf1b94eeaf		
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
7	Power of Attorney	072557631170505602POA22December2014.pdf	2138109	no	3
			4608680b6626952077e9e44333410926909832b8		
Warnings:					
Information:					

8	Information Disclosure Statement (IDS) Form (SB08)	082557631170505602PTOSB08 22December2014.pdf	1183790 e4e33a9c44d2ae3c2824ecbf0efefb7ac966955d	no	3
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
9	PTO/SB/69-Authorize EPO Access to Search Results	092557631170505602PTOSB69 22December2014.pdf	142626 418469707704afe2084e28eee8c9f5c9b0711795	no	2
Warnings:					
Information:					
10	Miscellaneous Incoming Letter	102557631170505602IDSLetter 22December2014.pdf	629312 7c477600286953daa4f5278fc62dcbab50eacd04	no	2
Warnings:					
Information:					
11	Fee Worksheet (SB06)	fee-info.pdf	34950 08351ee2e4beff8389024bd924ea08a37e90573f	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			16154532		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

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**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(i))

Attorney Docket No.	255763; 11705.05602
First Named Inventor	Francisco M. Gutierrez
Title	CHEMICAL INJECTION SYSTEM
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ **Fee Transmittal Form**
(PTO/SB/17 or equivalent)
2. ☐ **Applicant asserts small entity status.**
See 37 CFR 1.27
3. ☐ **Applicant certifies micro entity status.** See 37 CFR 1.29.
Applicant must attach form PTO/SB/15A or 8 or equivalent.
4. ☒ **Specification** [Total Pages 29]
Both the claims and abstract must start on a new page.
(See MPEP § 608.01(e) for information on the preferred arrangement)
5. ☒ **Drawing(s)** (35 U.S.C. 113) [Total Sheets 5]
6. **Inventor's Oath or Declaration** [Total Pages 5]
(including substitute statements under 37 CFR 1.64 and assignments
serving as an oath or declaration under 37 CFR 1.63(e))
 - a. ☒ Newly executed (original or copy)
 - b. ☐ A copy from a prior application (37 CFR 1.63(d))
7. ☒ **Application Data Sheet** * See note below.
See 37 CFR 1.76 (PTO/AIA/14 or equivalent)
8. **CD-ROM or CD-R**
in duplicate, large table, or Computer Program (Appendix)
 ☐ Landscape Table on CD
9. **Nucleotide and/or Amino Acid Sequence Submission**
(if applicable, items a. – c. are required)
 - a. ☐ Computer Readable Form (CRF)
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11. ☐ **37 CFR 3.73(c) Statement** (when there is an assignee) ☒ **Power of Attorney**
12. ☐ **English Translation Document**
(if applicable)
13. ☒ **Information Disclosure Statement**
(PTO/SB/08 or PTO-1449)
☐ Copies of citations attached
14. ☐ **Preliminary Amendment**
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16. ☐ **Certified Copy of Priority Document(s)**
(if foreign priority is claimed)
17. ☐ **Nonpublication Request**
Under 35 U.S.C. 122(b)(2)(i), Applicant must attach form PTO/SB/35
or equivalent.
18. ☐ **Other:** PTO/SB/69 (2 pages)
IDS (2 pages)

*Note: (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 must be included in an Application Data Sheet (ADS).
 (2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an
 assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary
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19. CORRESPONDENCE ADDRESS
☒ The address associated with Customer Number: 125443 OR ☐ Correspondence address below

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Signature	/Michael J. Wasco/	Date	December 22, 2014
Name (Print/Type)	Michael J. Wasco	Registration No. (Attorney/Agent)	58,919

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
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FEE TRANSMITTAL

Complete if known

☐ Applicant asserts small entity status. See 37 CFR 1.27.	Application Number	Not yet Assigned
☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.	Filing Date	Concurrently Herewith
TOTAL AMOUNT OF PAYMENT (\$)	First Named Inventor	Francisco M. Gutierrez
1600	Examiner Name	Not yet Assigned
	Art Unit	N/A
	Practitioner Docket No.	255763;11705.05602

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

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For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)

Application Type	FILING FEES			SEARCH FEES			EXAMINATION FEES			Fees Paid (\$)
	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	
Utility	280	140*	70	600	300	150	720	360	180	1800
Design	180	90	45	120	60	30	460	230	115	
Plant	180	90	45	380	190	95	580	290	145	
Reissue	280	140	70	600	300	150	2,160	1,080	540	
Provisional	260	130	65	0	0	0	0	0	0	

* The \$140 small entity status filing fee for a utility application is further reduced to \$70 for a small entity status applicant who files the application via EFS-Web.

2. EXCESS CLAIM FEES

Fee Description	Undiscounted Fee (\$)	Small Entity Fee (\$)	Micro Entity Fee (\$)
Each claim over 20 (including Reissues)	80	40	20
Each independent claim over 3 (including Reissues)	420	210	105
Multiple dependent claims	780	390	195

Total Claims _____ - 20 or HP = _____ x _____ = _____
HP = highest number of total claims paid for, if greater than 20.
Indep. Claims _____ - 3 or HP = _____ x _____ = _____
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3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$400 (\$200 for small entity) (\$100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets _____ - 100 = _____ / 50 = _____ (round up to a whole number) x _____ = _____
Extra Sheets _____
Number of each additional 50 or fraction thereof _____
Fee (\$) _____
Fee Paid (\$) _____

4. OTHER FEE(S)

Non-English specification, \$130 fee (no small or micro entity discount)

Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, \$400 fee (\$200 small or micro entity)

Other (e.g., late filing surcharge): _____

SUBMITTED BY

Signature	/Michael J. Wasco/	Registration No. (Attorney/Agent) 58,919	Telephone 802.860.4121
Name (Print/Type)	Michael J. Wasco	Date December 22, 2014	

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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CHEMICAL INJECTION SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. Patent Application Serial No. 12/794,898, filed on June 7, 2010, and entitled "CHEMICAL INJECTION SYSTEM," which claims the benefit of priority to U.S. Provisional Application Serial No. 61/184,890, filed on June 8, 2009.

BACKGROUND

[0002] This disclosure relates to a chemical injection system and, more particularly, to a chemical injection system controlled through remote communications via one or more communication protocols.

[0003] Conduit systems that carry and/or transport one or more fluids may utilize injection systems to insert other fluids (e.g., additives, inhibitors, or otherwise) into the conduit system. For example, hydrocarbon systems that transport hydrocarbon fluids, such as oil and/or gas or other fluids, often receive injected fluids in order to, for example, control corrosion within the conduit or pipeline; prevent paraffin deposition; and break emulsions in the transported hydrocarbon fluids. The injected fluids may also be used for water removal or separation from hydrocarbon gasses or liquids. In some instances, a chemical injector may be associated with a wellsite or other hydrocarbon production facility in order to inject chemical additives into a pipeline fluidly coupled at the wellsite with a wellbore producing hydrocarbons. The chemical injector may periodically inject a set amount of chemical additives into the pipeline at predetermined intervals in order to maintain a desired amount of such additives within the pipeline. In such instances, however, the chemical injector may simply inject the additives on a timer system without regard to certain variables such as, for example, the flow rate through the pipeline the amount (percentage concentration) of additives already within the transported hydrocarbon fluids in the pipeline, possible problems within the pipeline or production facility, and/or a desired or required increase in the set amount of additives

injected into the pipeline. Further, the chemical injector may have no ability to communicate with other equipment and/or monitoring systems in order to take account of such variables. If communication is possible, however, equipment and/or monitoring systems communicably coupled with the chemical injector may not transmit data and/or instructions in a protocol readily understood by the chemical injector, or vice versa.

BRIEF DESCRIPTION OF THE INVENTION

[0004] In one general embodiment, a method for controlling a chemical injection system for a hydrocarbon transmission system includes providing a chemical injection system. The chemical injection system includes a pump driven by a motor and in fluid communication with a chemical reservoir and the hydrocarbon transmission system, where the pump is adapted to inject one or more chemical fluids into the hydrocarbon transmission system. The chemical injection system includes a motor controller coupled to the motor and adapted to control operation of the motor; and a controller communicably coupled to the motor controller. The method includes receiving an operational command at the chemical injection system in a first communication protocol from a remote computer; translating, at the controller, the operational command at the first communication protocol to an operational command at a second communication protocol different than the first communication protocol; transmitting the operational command at the second communication protocol from the controller to the motor controller; and adjusting the motor controller to control the operation of the motor in response to receiving the operational command at the second communication protocol from the controller.

[0005] In another general embodiment, a chemical injection system for a hydrocarbon pipeline includes: a pump in fluid communication with a chemical reservoir and the pipeline; a motor coupled to the pump and adapted to drive the pump to transfer a chemical fluid from the reservoir to the pipeline; a motor controller electrically coupled to a power module and the motor and adapted to adjust a rotational speed of the motor; and a central controller communicably coupled to the motor controller and a remote

computing device. The controller includes a translator adapted to receive a signal from the remote computing device in a first communication protocol and translate the signal from the remote computing device to a command in a second communication protocol distinct from the first communication protocol, where the command is operable to adjust the motor controller to adjust the rotational speed of the motor.

[0006] In another general embodiment, a system includes: a remote computing system comprising a graphical user interface (GUI); a sensor coupled with a hydrocarbon transmission system; and a chemical injection system. The chemical injection system includes: a pump in fluid communication with a chemical reservoir and the hydrocarbon transmission system; a motor coupled to the pump and adapted to drive the pump to transfer a chemical fluid from the reservoir to the hydrocarbon transmission system; a power module adapted to receive solar power and convert the solar power to electrical power; a motor controller electrically coupled to the power module and the motor and adapted to adjust a rotational speed of the motor; and a central controller communicably coupled to the motor controller and communicably coupled to the remote computing system and the sensor. The controller includes a translator adapted to receive a signal from the remote computing system in a first communication protocol and translate the signal from the remote computing system to a command in a second communication protocol distinct from the first communication protocol, where the command operable to adjust the motor controller to adjust the rotational speed of the motor.

[0007] In one aspect of one or more general embodiments, a method may further include receiving a second operational command at the chemical injection system in a third communication protocol from the remote computer; translating, at the controller, the second operational command at the third communication protocol to second operational command at the second communication protocol different than the third communication protocol; transmitting the second operational command at the second communication protocol from the controller to the motor controller; and adjusting the motor controller to

control the operation of the motor in response to receiving the second operational command at the second communication protocol from the controller.

[0008] In one aspect of one or more general embodiments, a method may further include monitoring at least one parameter of the hydrocarbon transmission system by the chemical injection system; transmitting the parameter to the remote computer; and receiving a fourth operational command at one of the first or third communication protocols from the remote computer in response to the parameter.

[0009] In one aspect of one or more general embodiments, the parameter may include one of the following: a fluidic pressure in the hydrocarbon transmission system; a fluidic flowrate in the hydrocarbon transmission system; a percentage concentration by weight or volume of chemical fluid in the hydrocarbon transmission system; an operational parameter of the motor; a controller temperature; a battery voltage; a motor current; a solar cell charge current; and one or more fault conditions.

[0010] In one aspect of one or more general embodiments, a method may further include measuring the parameter with a sensor positioned in the hydrocarbon transmission system; and wirelessly transmitting a signal representative of the parameter from the sensor to the chemical injection system.

[0011] In one aspect of one or more general embodiments, chemical additives may include at least one of: a corrosion inhibitor; a paraffin inhibitor; a demulsifier; an ethanol; and a foamer.

[0012] In one aspect of one or more general embodiments, receiving an operational command at the chemical injection system in a first communication protocol from a remote computer may include receiving an operational command at the chemical injection system in a first communication protocol from a remote computer via a radio frequency RF signal.

[0013] In one aspect of one or more general embodiments, a method may further include receiving a signal representative of a sensed parameter of the hydrocarbon transmission system in the second communication protocol; translating the parameter in the second communication protocol to a signal representative of the sensed parameter in the first communication protocol; and transmitting the signal representative of the sensed parameter in the first communication protocol to the remote computer.

[0014] In one aspect of one or more general embodiments, adjusting the motor controller to control the operation of the motor in response to receiving the operational command at the second communication protocol from the controller may include adjusting a rotational speed of the motor.

[0015] In one aspect of one or more general embodiments, a method may further include providing a sensor coupled to the hydrocarbon transmission system and adapted to monitor an operational parameter of the system; receiving a signal representative of the operational parameter at the controller from the sensor; and automatically adjusting the motor controller to adjust a rotational speed of the motor in response to receiving the signal representative of the operational parameter.

[0016] In one aspect of one or more general embodiments, a method may further include providing a second chemical injection system; receiving a third operational command at the second chemical injection system in the first communication protocol from the remote computer; translating, at the second controller, the third operational command at the first communication protocol to a third operational command at the second communication; transmitting the third operational command at the second communication protocol from the second controller to the second motor controller; and adjusting the second motor controller to control the operation of the second motor in response to receiving the third operational command at the second communication protocol from the second controller. The second chemical injection system may include: a second pump driven by a second motor and in fluid communication with the chemical reservoir and the hydrocarbon transmission system, where the second pump is adapted to

inject one or more chemical fluids into the hydrocarbon transmission system; a second motor controller coupled to the second motor and adapted to control operation of the second motor; and a second controller communicably coupled to the second motor controller.

[0017] In one aspect of one or more general embodiments, the motor controller may include a variable frequency drive.

[0018] In one aspect of one or more general embodiments, the translator may be further adapted to receive a signal from the remote computing device in a third communication protocol and translate the signal from the remote computing device to a second command in the second communication protocol distinct from the third and the first communication protocols, where the second command is operable to adjust the motor controller to adjust the rotational speed of the motor.

[0019] In one aspect of one or more general embodiments, a system may further include a receiver communicably coupled to the central controller and adapted to receive the signal from the remote computing device, the signal comprising a radio frequency (RF) signal.

[0020] In one aspect of one or more general embodiments, the receiver maybe adapted to receive a second signal from a remote sensor coupled to the pipeline.

[0021] In one aspect of one or more general embodiments, the controller may be further adapted to receive the second signal from the remote sensor through the receiver and transmit the second signal to the remote computing device.

[0022] In one aspect of one or more general embodiments, the translator may be adapted to receive the second signal from the receiver, the second signal in the second communication protocol, and translate the second signal to a third signal in the first communication protocol.

[0023] In one aspect of one or more general embodiments, the second communication protocol may include a Modbus protocol.

[0024] In one aspect of one or more general embodiments, the GUI may be adapted to display one or more operational parameters of the chemical injection system.

[0025] In one aspect of one or more general embodiments, a system may further include a transceiver communicably coupled to the remote computing station through a communications network, the transceiver in RF communication with the chemical injection system.

[0026] In one aspect of one or more general embodiments, a system may further include one or more communication stations in RF communication with the chemical injection system and the transceiver, where each communication station is adapted to relay operational parameters of the chemical injection system in the form of RF signals between the transceiver and the chemical injection system.

[0027] In one aspect of one or more general embodiments, a system may further include: a second sensor coupled with the hydrocarbon transmission system; and a second chemical injection system. The second chemical injection system may include a pump in fluid communication with the chemical reservoir and the hydrocarbon transmission system; a motor coupled to the pump and adapted to drive the pump to transfer the chemical fluid from the reservoir to the hydrocarbon transmission system; a power module; a motor controller electrically coupled to the power module and the second motor and adapted to adjust a rotational speed of the motor; and a central controller communicably coupled to the motor controller and to the remote computing system and the second sensor. The controller may include a translator adapted to receive a signal from the remote computing system in the first communication protocol and translate the signal from the remote computing system to a command in the second communication protocol distinct from the first communication protocol, where the command is operable to adjust the motor controller to adjust the rotational speed of the motor.

[0028] One or more of the above-described embodiments, as well as other embodiments described herein, may include one or more of the following features. For example, a chemical injection system may be remotely controlled through wired or wireless communication. A chemical injection system may be able to receive data in the form of a particular communication protocol and translate such data into a separate and distinct protocol. A chemical injection system may be able to reduce waste of chemicals injected into a hydrocarbon pipeline upon loss of pipeline pressure due to breaks or leaks. A chemical injection system may include a stand-alone power generation module obviating the need for electrical power from a municipal, city, or state power grid. A hydrocarbon transmission system including one or more chemical injection systems may more efficiently inject chemical additives into the system by monitoring the amount of additives present in the system, thereby preventing waste. Further, a hydrocarbon transmission system including one or more chemical injection systems may account for relative distances between production sites and pipeline monitoring locations in order to efficiently inject chemical additives into the system without waste. Additionally, a hydrocarbon transmission system including one or more chemical injection systems may monitor the amounts of injected chemical remaining in one or more chemical fluid reservoirs in order to avoid such injection units running out of chemicals.

[0029] These general and specific aspects may be implemented using a device, system or method, or any combinations of devices, systems, or methods. The details of one or more embodiments are set forth in the accompanying drawings and the description below. Other features, objects, and advantages will be apparent from the description and drawings, and from the claims.

BREIF DESCRIPTION OF THE DRAWINGS

[0030] FIG. 1 illustrates a block diagram of one embodiment of a chemical injection system in accordance with the present disclosure;

[0031] FIG. 2 illustrates a block diagram of a hydrocarbon production system utilizing one or more chemical injection systems in accordance with the present disclosure;

[0032] FIG. 3 illustrates a schematic drawing of an example system for managing one or more chemical injection systems in accordance with the present disclosure; and

[0033] FIGS. 4A-D illustrate example graphical user interfaces (GUI) for use in a system for managing one or more chemical injection systems in accordance with the present disclosure.

DETAILED DESCRIPTION

[0034] In one embodiment, a chemical injection system for a hydrocarbon transmission system includes a pumping system adapted to inject a specified amount of chemical additive into the transmission system; and a controller communicably coupled to the pumping system and adapted to receive one or more operational parameters of the transmission system and transmit a command to the pumping system based on the one or more operational parameters, where the pumping system injects the specified amount in response to the command.

[0035] In another embodiment, a chemical injection system for a hydrocarbon transmission system includes a pumping system adapted to inject a specified amount of chemical additive into the transmission system; and a controller communicably coupled to the pumping system and adapted to receive one or more operational parameters of the transmission system in a first communication protocol and transmit a command to the pumping system based on the one or more operational parameters, where the pumping system injects the specified amount in response to the command. The command is in a second communication protocol distinct from the first protocol.

[0036] In another embodiment, a chemical injection system for a hydrocarbon transmission system includes a pumping system adapted to inject a specified amount of

chemical additive into the transmission system; and a controller communicably coupled to the pumping system and a remote data source. The controller is adapted to receive one or more operational parameters of the transmission system from the remote data source and transmit a command to the pumping system based on the one or more operational parameters, where the pumping system injects the specified amount in response to the command.

[0037] In another embodiment, a hydrocarbon transmission system includes a pipeline adapted to enclose a fluid transmitted from a plurality of hydrocarbon production sites to a processing site and a plurality of chemical injection systems. Each injection system includes a pumping system adapted to inject a specified amount of chemical additive into the pipeline; and a controller communicably coupled to the pumping system and adapted to receive one or more operational parameters of the pipeline and transmit a command to the pumping system based on the one or more operational parameters, where the pumping system injects the specified amount in response to the command. The hydrocarbon transmission system further includes a data capture apparatus remote from the plurality of chemical injection systems and coupled to the pipeline, the data capture apparatus adapted to detect the one or more operational parameters and transmit the parameters to at least one of the plurality of chemical injection systems, where the one or more operational parameters include a distance between the data capture apparatus and the plurality of chemical injection systems.

[0038] FIG. 1 illustrates a block diagram of one embodiment of a chemical injection system 100 in accordance with the present disclosure. Chemical injection system 100, typically, includes a pump 105 mechanically coupled to a driver, such as a motor 110; a motor controller 115; a controller 130, and a chemical reservoir 165. In some embodiments, the controller 130 may be a single unit integrating a motor-controller, controller, and a data acquisition module. Alternatively, at least one of the data acquisition module (not shown) and motor-controller may be separate from the controller 130. In one preferred embodiment, the chemical injection system 100 may be utilized in a

hydrocarbon production system, such as, for example, a field or area having one or more hydrocarbon (e.g., oil, natural gas) production sites. Chemical injection system 100 may be used in such embodiments to inject or otherwise introduce chemicals (e.g., corrosion inhibitors, ethanol, foamer, paraffin inhibitor, demulsifier, or other chemical) into a hydrocarbon conduit, such as a pipeline 120 or wellbore. In some embodiments, for example, an appropriate amount of chemicals, such as a predetermined volumetric amount, an amount per unit volume of fluid flowing through a pipeline, or an amount sufficient to keep a measured pipeline parameter within in a particular range, may be injected into the pipeline 120 or other hydrocarbon transmission apparatus.

[0039] Pump 105 is fluidly coupled to the pipeline 120 and the reservoir 165 and, generally, draws a specified amount of chemical stored in the reservoir 165 and injects the chemical into the pipeline 120 at predefined time intervals, predetermined operating conditions, and/or when commanded. Pump 105 may be any appropriate fluid displacement device, such as, for example, a centrifugal pump, diaphragm pump, or other rotary fluid displacement apparatus, or a positive displacement (e.g., piston or plunger) pump, such as a reciprocating pump. In any event, reference to the pump 105 includes all fluid displacement apparatus operable to receive a fluid at an inlet and impart mechanical energy to the fluid for transporting the fluid through an outlet. In the illustrated embodiment, pump 105 receives chemicals from the reservoir 165 and introduces the chemical into the pipeline 120; alternatively, chemicals may be received at the pump 105 through a separate pipeline or conduit, as appropriate.

[0040] In some embodiments, pump 105 may be constructed with particular materials in order to prevent corrosion or deterioration due to the flow of chemical fluid through the pump 105. For instance, one or more components of pump 105 may be constructed of stainless steel (e.g., 316), titanium, or any other non-corrosive material, as appropriate.

[0041] Motor 110 is mechanically coupled to the pump 105 and provides power to the pump 105 for fluid displacement. In some embodiments, the motor 110 includes a weatherproof enclosure or design, and is adapted to function in environmentally extreme

(e.g., snow, rain, heat) and hazardous conditions. For example, motor 110 may be a totally-enclosed fan cooled (TEFC), totally-enclosed air over (TEAO), hazardous duty, and/or explosion proof motor. In any event, motor 110 may include the appropriate NEMA (National Electrical Manufacturers Association) rating for operating requirements in an outdoor, hydrocarbon production area.

[0042] Motor controller 115 is electrically coupled to the motor 110 and, typically, controls the supply of phased power (e.g., 120/3/60, 460/3/60, 208/3/60, 240/1/60, 50 Hertz, DC: 12/24/48/96/single or three phase/brushed or brushless) to the motor 110. Motor controller 115 receives electrical power, in some embodiments, from an area power supply, such as a municipal or state power grid, through the power supply 125. Alternatively, or in addition, the motor controller 115 may receive electrical power through the power supply from a power module 135, which may be enclosed in, integral with, or separate from the controller 130. For instance, in some embodiments, the power module 135 may be a solar power module, operable to convert solar energy to electrical power. Other forms of power generation (e.g., wind, natural gas, hydroelectric, etc.) may also be used, as appropriate. Power module 135 may also be a battery, such as a lithium, zinc-carbon, gel cell, full cell, or alkaline cell battery, as appropriate. In one preferred embodiment, the power module 135 may be the primary source of electrical power to the motor controller 115 (and thus motor 110), with the power grid as a secondary power source should there be problems or a failure of the power module 135. Alternatively, in some embodiments, the power grid may be the primary source of electrical power to the motor controller 115 with the power module 135 serving as the secondary source of electrical power. Further, in some embodiments, the power module 135 could be a combined solar module and battery.

[0043] Motor controller 115 is electrically coupled to the motor 110 and, typically, provides and controls electrical power to the motor 110 for operation of the pump 105. In some embodiments, motor controller 110 may be a combination starter/disconnect, which provides "on-off" control of electrical power to the motor 110. In such embodiments, the

motor 110 may be operated as a constant (or single) speed motor. Alternatively, the motor controller 115 may also be a variable frequency controller, operable to provide electrical power to motor 110 at a variety of frequencies (and thus rotational motor speeds) as system operating conditions warrant. As with the motor 110, motor controller 115 may be enclosed or otherwise protected against environmental and/or hazardous operating conditions.

[0044] Controller 130 is communicably coupled to the motor controller 115 and, typically, provides microprocessor-based control of the motor controller 115 and thus motor 110 and pump 105. The controller 130 includes a communication module 140, a translation module 145, motor driver, data acquisition, data storage, and a processor 150. As illustrated in FIG. 1, these components may be enclosed or integrated with controller 130. Alternatively, one or more of the communication module 140, translation module 145, processor 150, and also the power module 135 may be in separate enclosures but communicably coupled in between. Generally, controller 130 receives inputs and/or instructions and commands from a remote source and, according to the commands, controls the operation and/or speed of the motor 110 and pump 105 to inject chemicals into the pipeline 120. Alternatively, the controller 130 may be a stand alone controller with preset programs and schedules to execute. For example, the controller 130 may receive data representative of pipeline conditions, such as line pressure, amount of chemicals present in the pipeline 120, and motor operating conditions, and in turn, control the pump 105 to inject more or less chemicals into the pipeline 120.

[0045] The controller 130, in some preferred embodiments, may include a combination of software, middleware, and hardware configured as the communication module 140, translation module 145, and processor 150. Controller 130 may further include one or more memory devices (not shown) located therein or communicably coupled to the controller 130. In some embodiments, for example, such memory may be any database module and may take the form of volatile or non-volatile memory including, without limitation, magnetic media, optical media, random access memory (RAM), read-

only memory (ROM), removable media, or any other suitable local or remote memory component. The memory may also include any other appropriate data such as data classes or object interfaces, and software sub-applications or sub-systems.

[0046] In certain embodiments, for example, the controller 130 may store in memory and execute one or more software applications written or described in any appropriate computer language including C, C++, Java, Visual Basic, assembler, Perl, any suitable version of 4GL, as well as others. Such applications may be executed by the processor 150 located within or communicably coupled to the controller 130. Processor 150 executes instructions and manipulates data to perform the operations of the controller 130. The processor 150 may be, for example, a central processing unit (CPU), a blade, an application specific integrated circuit (ASIC), or a field-programmable gate array (FPGA). Although the present disclosure contemplates a single processor 150 in controller 130, multiple processors may be used according to particular needs, and reference to a single processor 150 is meant to include multiple processors where applicable.

[0047] In some embodiments, the controller 130 is communicably coupled to a communication bus 155 at the communication module 140. The communication bus 140, generally, is a wired communication connection operable to carry data between the communication module and a remote source, such as one or more electronic sensors monitoring the pipeline 120, the motor 110, the pump 105, or other component or apparatus. In any event, communication bus 155 is a non-limiting example of wired communications between the system 100 and a remote data source.

[0048] Alternatively or in addition to the communication bus 155, system 100 may include a wireless antenna 160 operable to facilitate electronic communication between the controller 130 and a remote source. Wireless antenna 160 may communicate through any appropriate wireless technique, such as, for example, radio frequency (RF), WiFi, microwave, and any appropriate IEEE standard technique. In one embodiment, for example, wireless sensors may detect various operational parameters of the pipeline 120,

such as line pressure and/or chemical concentrate, and transmit such data to the controller 130 via the wireless antenna 160.

[0049] The communication module 140 receives and/or transmits data between a remote source via one or both of the communication bus 155 and wireless antenna 160. In some embodiments, only one of the bus 155 and antenna 160 is utilized in the system 100. For example, the communication module 140 may be a wireless modem operable to receive and transmit electronic data and signals from and to the remote source through the wireless antenna 160.

[0050] Translation module 145 is communicably coupled to the communication module 140 and the processor 150. Typically, translation module 145 receives data communicated in a particular communication protocol to the system 100 via the communication bus 155 and/or wireless antenna 160 and, when necessary, translates such data to a secondary communication protocol understood by the motor controller 115 or other components of the system 100. For instance, data may be sent to the controller 130 in many different protocols, such as RS-232, RS-485 (Modbus or EIA-485), RS-422 (or EIA-422), TCP/IP, Fieldbus, DeviceNet, and Profibus, to name but a few. The motor controller 115 may be configured to receive data in only one, or just a few, protocols (e.g., a version of the Modbus serial communication protocol, such as Modbus RTU, Modbus ASCII, Modbus TCP/IP, Modbus TCP, Modbus over TCP/IP, Modbus over TCP, and/or Modbus Plus). Thus, the translation module 145 allows a remote source of data to be transmitted to the control 130 in a remote protocol without regard to the particular protocol understood by the motor controller 115.

[0051] Further, in some embodiments, the translation module 145 may allow a user or operator to connect to the controller 130 and receive feedback data (e.g., operational data of the motor 110, pump 105, or any other component of the system 100) without regard to a particular protocol understood by the user's device (i.e., computer, laptop, PDA, cell phone). In other words, the translation module 145 may perform two-way protocol translation between the system 100 and the user or operator. In such fashion, the

user or operator may seamlessly communicate with the system 100 without any additional action required on the user's part.

[0052] Processor 150 performs any logical operation necessary for controlling, operating, or otherwise managing the system 100, and in particular, the motor controller 115 and thus motor 110 and pump 105. For instance, the processor 150 may receive one or more data signals representative of, for example, pipeline fluid line pressure, pipeline fluid flowrate, pipeline chemical percentage concentrate by volume or by weight, motor operating parameter (e.g., amp draw, voltage, winding temperature) and transmit commands to the motor controller 115 based on such data. As one specific example, a wireless pressure sensor may be installed at a particular location in the pipeline 120. The sensor may periodically transmit the sensed line pressure to the controller 130 via the wireless antenna 160. When such sensed pressure falls below a minimum threshold, such as when a pipeline break occurs, the processor 150 may command the motor controller 115 to stop or reduce the speed of the motor 110 and pump 105 so that additional chemicals are not injected into the pipeline 120 and wasted.

[0053] FIG. 2 illustrates a block diagram of a hydrocarbon production system 200 utilizing one or more chemical injection systems 210 in accordance with the present disclosure. In some embodiments, for instance, the one or more chemical injection systems 210 may be substantially similar to chemical injection system 100. System 200 includes one or more hydrocarbon production sites 215, each of which is fluidly coupled to a pipeline 205. At one or more of the sites 215, a chemical injection system 210 is also in fluid communication with the pipeline 205 and operates in accordance with the chemical injection system 100 described above. At a main (or side) branch of the pipeline 205, a monitoring module 225 detects one or more operational parameters of the hydrocarbon stream within the pipeline 205. The system 200 also includes a remote control center 220. As illustrated in FIG. 2, the chemical injection systems 210, monitoring module 225, and remote control center 220 may all be in wireless communication. Further, although a particular number of sites 215, injection systems

210, monitoring module 225, and control center 220 are shown, more or less of each component, as appropriate, may be utilized in keeping with the present disclosure.

[0054] In some embodiments, the production system 200 may operate as follows. Monitoring module 225 may include a number of wireless sensor devices operable to detect one or more operational parameters of the hydrocarbon stream within the pipeline 205. For instance, the module 225 may detect the relative amount of chemical additives injected into the pipeline 205 by the one or more chemical injection systems 210. Such data may be wirelessly transmitted directly to each chemical injection system 210 and/or the remote control center 220. In some embodiments, the data is communicated to the remote control center 220, where it is then processed. The remote control center 220 may then wirelessly issue commands to one or more of the chemical injection systems 210. Such commands may include a command to stop injecting chemical additive into the pipeline 205 and/or a command to inject a specified amount of chemical additive into the pipeline 205. Thus, in some embodiments, some or all of the processing of data and command generation may occur at the remote control center 220 rather than each individual chemical injection system 210. In certain embodiments, the remote control center 220 may control one or more chemical injection systems 210 without regard to data received from the monitoring module 225. For instance, the remote control center 220 may issue commands to the chemical injection systems 210 to inject the chemical additives into the pipeline 205 at set intervals. Alternatively, the remote control center 220 may merely monitor and/or store data wirelessly communicated directly to the chemical injection systems 210 from the monitoring module 225. Upon receipt of such data, the chemical injection systems 210 may process the data and inject more or less chemical additive into the pipeline 205, as appropriate (as described above with reference to FIG. 1).

[0055] Further, in some embodiments, the remote control center 220 and/or the chemical injection systems 210 may account for the length of pipeline 205 between a particular chemical injection system 210 and the monitoring module 225. For instance,

particular chemical injection systems 210 that are further away from the monitoring module 225 may inject more chemical additive into the pipeline 205 as compared to chemical injection systems 210 that are closer to the monitoring module 225. This may, in some embodiments, help ensure that the amount of chemical additive in the pipeline 205 is uniformly consistent.

[0056] FIG. 3 illustrates a schematic drawing of an example system 300 for managing one or more chemical injection systems 310. In the illustrated embodiment, the system 300 includes a computer 305 displaying a graphical user interface (GUI) 315, one or more remote chemical injection systems 310, and a base transceiver 325. Generally, system 300 may be used to detect one or more operational parameters of a hydrocarbon stream within a pipeline (such as pipeline 205) and inject chemicals (e.g., corrosion inhibitors, ethanol, foamer) into the pipeline in response to or independent of the detected operational parameters. In addition, the system 300 may allow for microprocessor-based remote monitoring and control of the one or more chemical injection systems 310 regardless of a communication protocol utilized by the chemical injection systems 310, the base transceiver 325, and/or the computer 305 (as well as other equipment present in system 300 but not illustrated in FIG. 3).

[0057] Computer 305 may be a standalone computing device, such as a laptop computer, personal digital assistant (PDA), handheld electronic mail device, desktop computer, server, or other computing device. Although illustrated as a laptop computer, reference to the computer 305 includes any processor-based computing device that is operable to manipulate, display, receive, and/or transmit data, such as data associated with a wellsite, hydrocarbon piping system, or other hydrocarbon production facility. For example, computer 305 may include a combination of software, middleware, and hardware, including one or more memory devices (e.g., volatile or non-volatile memory including, without limitation, magnetic media, optical media, random access memory (RAM), read-only memory (ROM), removable media, or any other suitable local or remote memory component). Computer 305 may store in memory and execute one or

more software applications written or described in any appropriate computer language including C, C++, Java, Visual Basic, assembler, Perl, any suitable version of 4GL, as well as others, in order to manipulate, display, receive, and/or transmit data.

[0058] In some embodiments, the computer 305 may be located at a remote monitoring station, such as the station 320. Further computer 305 may be one of several computers at the remote monitoring station, where each computer 305 may monitor, receive data from, and/or generate commands transmitted to a single chemical injection system 310 or multiple chemical injection systems 310.

[0059] Each chemical injection system 310 may be positioned at or near a wellsite and/or a pipeline transporting hydrocarbon fluid. In some embodiments, the chemical injection system 310 may be substantially similar to chemical injection system 210 and/or chemical injection system 100 described above. For example, each chemical injection system 310 may include a pump mechanically coupled to a motor, a motor controller, a processor-based controller, and a chemical reservoir. Chemical injection system 310 may be used in such embodiments to inject or otherwise introduce chemicals (e.g., corrosion inhibitors, ethanol, foamer) into a hydrocarbon conduit. The pump is fluidly coupled to hydrocarbon conduit and the reservoir and draws a specified amount of chemical stored in the reservoir and injects the chemical into the conduit at predefined time intervals, predetermined operating conditions, and/or when commanded. The pump is coupled to a motor, which is electrically coupled to the motor controller. The motor controller receives electrical power (such as, for example, from a solar power module at the chemical injection system 310, as illustrated) and provides the power to the motor. In some embodiments, the motor controller may be a combination starter/disconnect, which provides "on-off" control of electrical power to the pump motor, while in such embodiments, the motor controller may be a variable frequency controller, operable to provide electrical power to the pump motor at a variety of frequencies (and thus rotational motor speeds) as system operating conditions warrant. In some embodiments,

the controller may communicate to the motor controller in only one, or just a few, communication protocols (e.g., Modbus).

[0060] The controller is communicably coupled to the motor controller and, typically, provides microprocessor-based control of the motor controller and thus motor and pump of chemical injection system 310. In some embodiments, the controller is communicably coupled (e.g., wirelessly, via wired communication, or a combination thereof) to one or more communication stations 320. For example, in some embodiments, data may be transmitted between the communication station 320 and the chemical injection system 310 via a particular communication protocol (e.g., RS-232, RS-485 (Modbus or EIA-485), RS-422 (or EIA-422), TCP/IP, Fieldbus, DeviceNet, and Profibus, to name but a few) and over a certain communication form (e.g., cellular, RF, satellite, or other type of communication form). One or more additional communication stations 320 may be interposed between the communication station in direct communication with the chemical injection system 310 and a base transceiver 325. For example, the communication stations 320 may be radio frequency (RF) transceivers that are operable to send and receive RF signals 335 representative of data and/or commands between the chemical injection systems 310 and the base transceiver 325.

[0061] The base transceiver 325 receives and/or consolidates data received from the chemical injection systems 310 via the communication stations 320. The base transceiver 325 may also receive and/or consolidate commands to the chemical injection systems 310 from the computer 305 (or other computing device). In the illustrated embodiment, the base transceiver 325 may communicate with the computer 305 over a communications network 330. For example, the communications network 330 may be all or a portion of an enterprise or secured network; a VPN merely between computer 305 and other computing devices communicably coupled to the base transceiver 325; one or more local area networks (LANs), radio access networks (RANs), metropolitan area networks (MANs), wide area networks (WANs), all or a portion of the global computer network

known as the Internet; and/or any other communication system or systems at one or more locations.

[0062] The GUI 315, in the illustrated embodiment, displays one or more variables or data for monitoring, managing, or otherwise controlling the chemical injection systems 310. For example, in the illustrated embodiment, the GUI 315 may display a level of a chemical reservoir at the chemical injection system 310; power capacity and/or availability of a pump motor at the chemical injection system 310; one or more pump or pump motor characteristics (e.g., amps, current status, pressure, as well as other parameters). The GUI 315 may also display other information in the illustrated format or in different formats.

[0063] In operation, a user or operator may utilize the GUI 315 to control one or more components of the chemical injection system 310 based on data received from the system 310 and displayed on the GUI 315. For example, each chemical injection system 310 may include a number of wireless sensor devices operable to detect one or more operational parameters of the hydrocarbon stream within the pipeline. For instance, the system 310 may detect the relative amount of chemical additives injected into the pipeline. In some embodiments, the data is communicated to the computer 305 via the communication stations 320, base transceiver 325, and communications network 330, where it is then processed. The computer 305 and/or a user operating the computer 305 may then issue commands to one or more of the chemical injection systems 310. Such commands may include a command to stop injecting chemical additive into the pipeline and/or a command to inject a specified amount of chemical additive into the pipeline.

[0064] Turning to FIGS. 4A-D, other example GUIs 400, 410, 420, and 430 are illustrated. One or more of GUIs 400, 410, 420, and 430 may be displayed on the computer 305 in place of or in addition to GUI 315. Further, GUIs 400, 410, 420, and 430 may show additional information associated with the chemical injection system 310. For example, GUI 400 provides information related to temperature of fluid flowing through the pipeline and/or from chemical reservoir; flow rate of fluid flowing through the

pipeline and/or from chemical reservoir; fluidic pressure of fluid flowing through the pipeline and/or from chemical reservoir; fluidic storage level of the chemical reservoir; a corrosion rate of the pipeline or other hydrocarbon transmission system; and a percentage water content of fluid flowing through the pipeline. GUI 410 provides information related to battery characteristics of the chemical injection system 310, as well as characteristics of the pipeline and/or other hydrocarbon transmission system. GUI 420 provides information related to motor characteristics of a motor in the chemical injection system 310. GUI 430 provides information related to additional operational characteristics of a pump and/or motor in the chemical injection system 310, as well as example fault information of the chemical injection system 310.

[0065] Returning to FIG. 3, in certain embodiments, the computer 305 may control one or more chemical injection systems 310 without regard to data received from the systems 310 (or other monitoring systems). For instance, the computer 305 may issue commands to the chemical injection systems 310 to inject the chemical additives into the pipeline at set intervals. Alternatively, the computer 305 may merely monitor and/or store data wirelessly communicated directly to the chemical injection systems 310. Upon receipt of such data, the chemical injection systems 310 may process the data and inject more or less chemical additive into the pipeline.

[0066] A number of embodiments have been described, and several others have been mentioned or suggested. Other embodiments are within the scope of the disclosure and claims. Some of the advantages of the chemical injection systems described herein have been discussed throughout this disclosure. Furthermore, those skilled in the art will readily recognize additional advantages that a variety of additions, deletions, alterations, and substitutions may be made to these embodiments.

CLAIMS

What is claimed is:

1. A method, comprising:

monitoring a hydrocarbon stream in a hydrocarbon pipeline with a monitoring module in fluid communication with the hydrocarbon pipeline, the monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of the hydrocarbon stream;

injecting an amount of one or more chemical fluids adapted to treat the hydrocarbon stream via one or more chemical injection systems in fluid communication with the hydrocarbon pipeline;

accounting for a relative distance between each of the one or more chemical injection systems and the monitoring module; and

adapting the amount of the one or more chemical fluids in accordance with the relative distance for each of the one or more chemical injection systems to provide a substantially uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

2. The method of claim 1, further comprising:

receiving, at a controller, data from the one or more sensor devices in a first communication protocol;

processing the data at the controller; and

generating, at the controller, a command in a second communication protocol that is different from the first communication protocol, wherein the command instructs the one or more chemical injection systems to regulate the amount of the one or more chemical fluids.

3. The method of claim 2, further comprising:
receiving, at a motor controller, the command;
processing the command at the motor controller; and
modulating, at the motor controller, power supplied to a motor in response to the command to operate a pump to disperse the amount of the one or more chemical fluids.

4. The method of claim 3, wherein the motor controller is configured to respond to one type of the second communication protocol.

5. The method of claim 1, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
- an operational parameter of the motor;
- a controller temperature;
- a battery voltage;
- a motor current;
- a solar cell charge current; and
- one or more fault conditions.

6. The method of claim 1, further comprising:

wirelessly transmitting a signal representative of the one or more operational parameters from the one or more sensor devices to the one or more chemical injection systems.

7. The method of claim 1, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;
- a demulsifier;
- an ethanol; and
- a foamer.

8. The method of claim 1, wherein accounting for the relative distances between the one or more chemical injection systems and the monitoring module is performed at a remote control center located apart from the pipeline.

9. The method of claim 1, wherein accounting for the relative distances between the one or more chemical injection systems and the monitoring module is performed at the one or more chemical injection system.

10. The method of claim 1, wherein the hydrocarbon pipeline is configured to connect in fluid communication with one or more hydrocarbon production sites.

11. A system for monitoring operation of a hydrocarbon pipeline, said system comprising:

a monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of hydrocarbon stream disposed in a hydrocarbon pipeline; and

one or more chemical injection systems in fluid communication with the hydrocarbon stream, the one or more chemical injection systems comprising a chemical reservoir containing a chemical fluid adapted to treat the hydrocarbon stream and configured to account for relative distances between the one or more chemical injection systems and the monitoring module, thereby providing a substantially uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

12. The system of claim 11, further comprising a transceiver communicably coupled to the control center through a communications network, the transceiver in wireless communication with the chemical injection system.

13. The system of claim 8, further comprising one or more communication stations in wireless communication with the chemical injection system and the transceiver, each communication station adapted to relay operational parameters of the chemical injection system in the form of wireless signals between the transceiver and the chemical injection system.

14. The chemical injection system of claim 10, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command

15. A chemical injection system, comprising:

a monitoring module comprising one or more sensor devices configured to detect one or more operational parameters of a hydrocarbon stream;

a controller in communication with the monitoring module; and

a chemical injection system in communication with the monitoring module and the controller, the chemical injection system configured to disperse a chemical fluid into a pipeline to treat the hydrocarbon stream disposed therein,

wherein the controller comprises a processor configured to account for relative distances between the chemical injection system and the monitoring module, and

wherein the controller is configured to generate a command that instructs the chemical injection system to regulate an amount of chemical fluid in response to the one or more operational parameters and the relative distance to disperse a substantially uniformly consistent quantity of the chemical fluid into the pipeline to treat the hydrocarbon stream.

16. The chemical injection system of claim 15, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

17. The chemical injection system of claim 16, wherein the chemical injection system comprises a motor controller coupled with the controller, a motor coupled with the motor controller, and a pump configured to disperse the chemical fluid, and wherein the motor controller is configured to supply power to the motor in response to the command to operate a pump to disperse the amount of the one or more chemical fluids.

18. The chemical injection system of claim 17, wherein the motor controller is configured to respond to one type of the second communication protocol.

19. The chemical injection system of claim 15, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;
- a demulsifier;
- an ethanol; and
- a foamer.

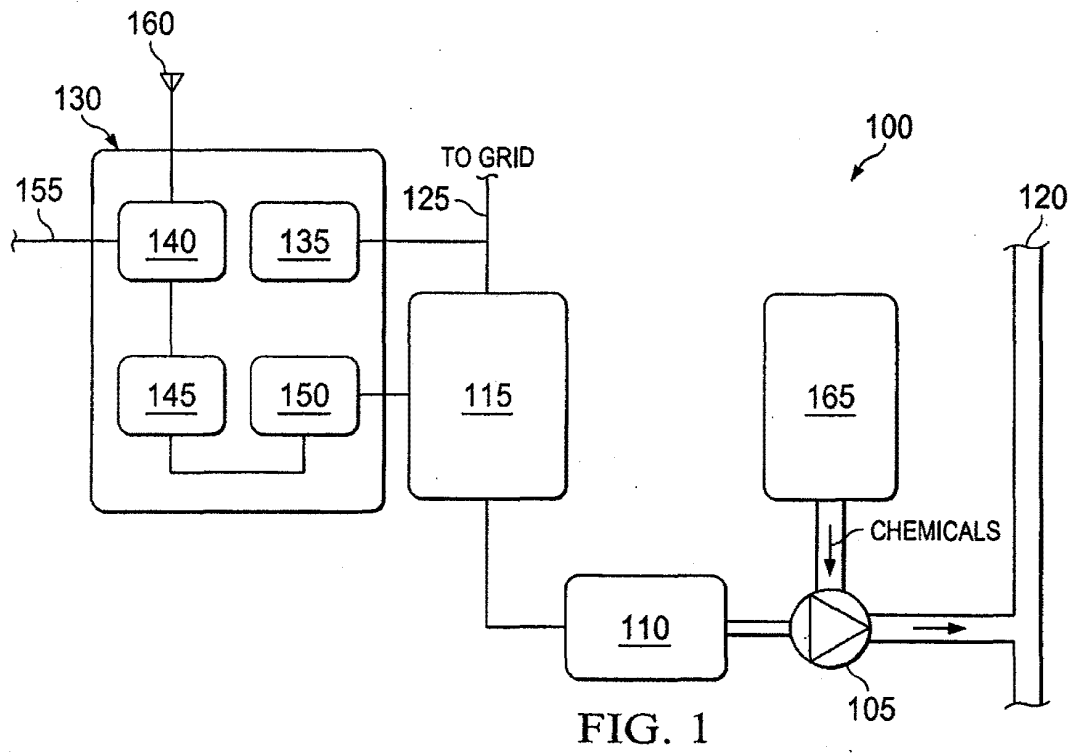
20. The chemical injection system of claim 15, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
- an operational parameter of the motor;
- a controller temperature;
- a battery voltage;
- a motor current;
- a solar cell charge current; and
- one or more fault conditions

CHEMICAL INJECTION SYSTEM

ABSTRACT

A chemical injection system includes a pump in fluid communication with a chemical reservoir and a pipeline; a motor coupled to the pump and adapted to drive the pump to transfer a chemical fluid from the reservoir to the pipeline; a motor controller electrically coupled to a power module and the motor and adapted to adjust a rotational speed of the motor; and a central controller communicably coupled to the motor controller and a remote computing device. The controller includes a translator adapted to receive a signal from the remote computing device in a first communication protocol and translate the signal from the remote computing device to a command in a second communication protocol distinct from the first communication protocol, where the command is operable to adjust the motor controller to adjust the rotational speed of the motor.



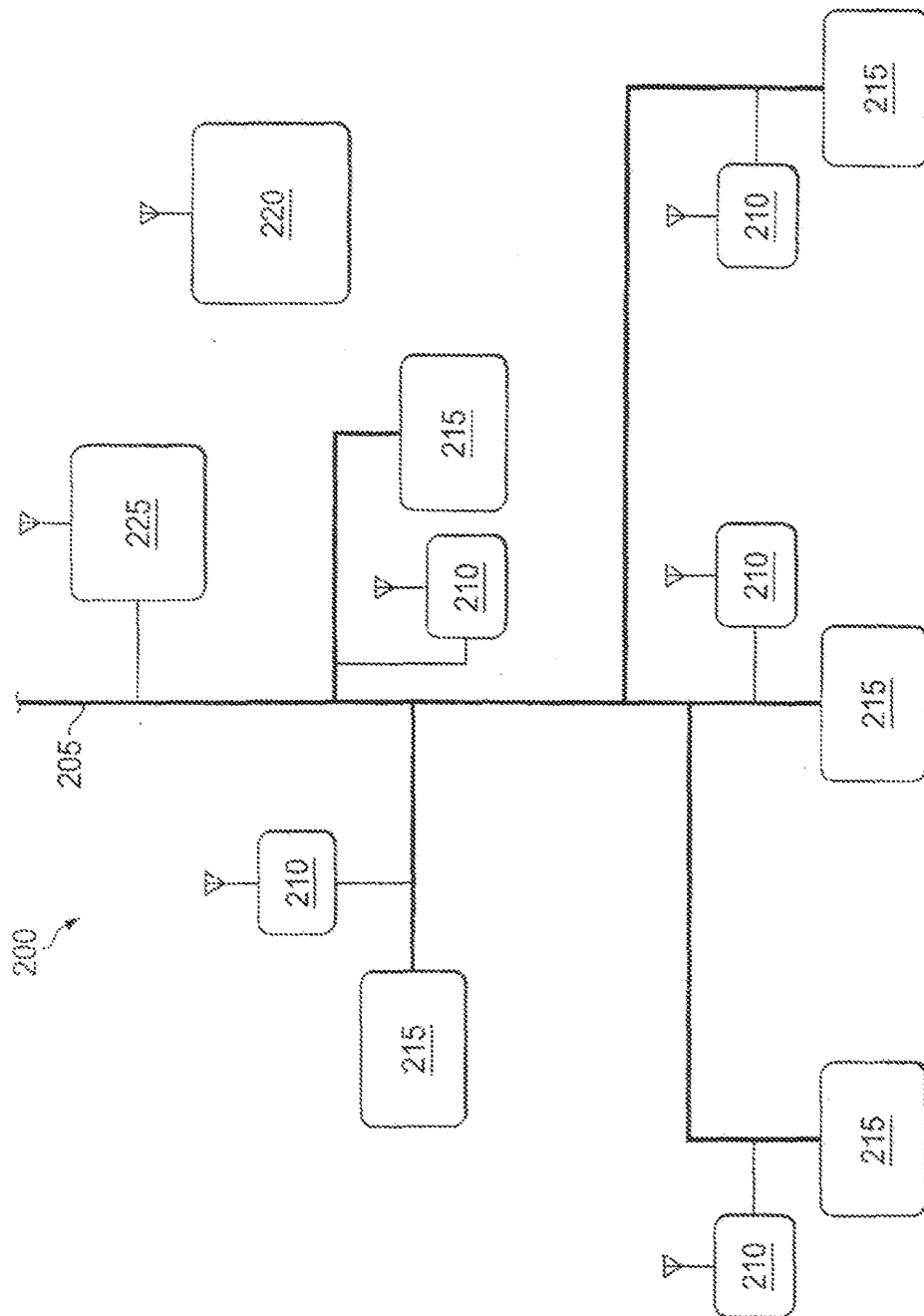
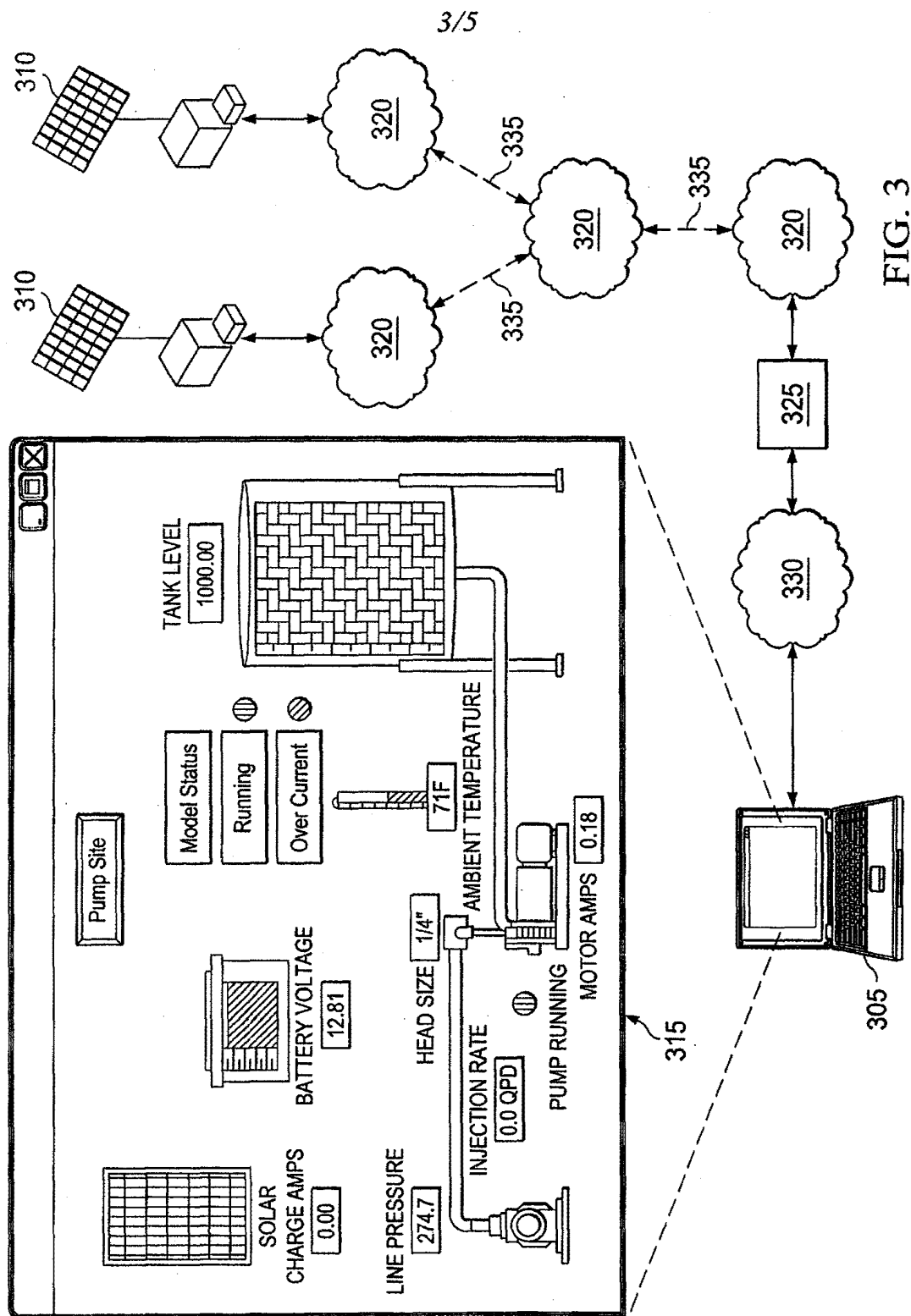


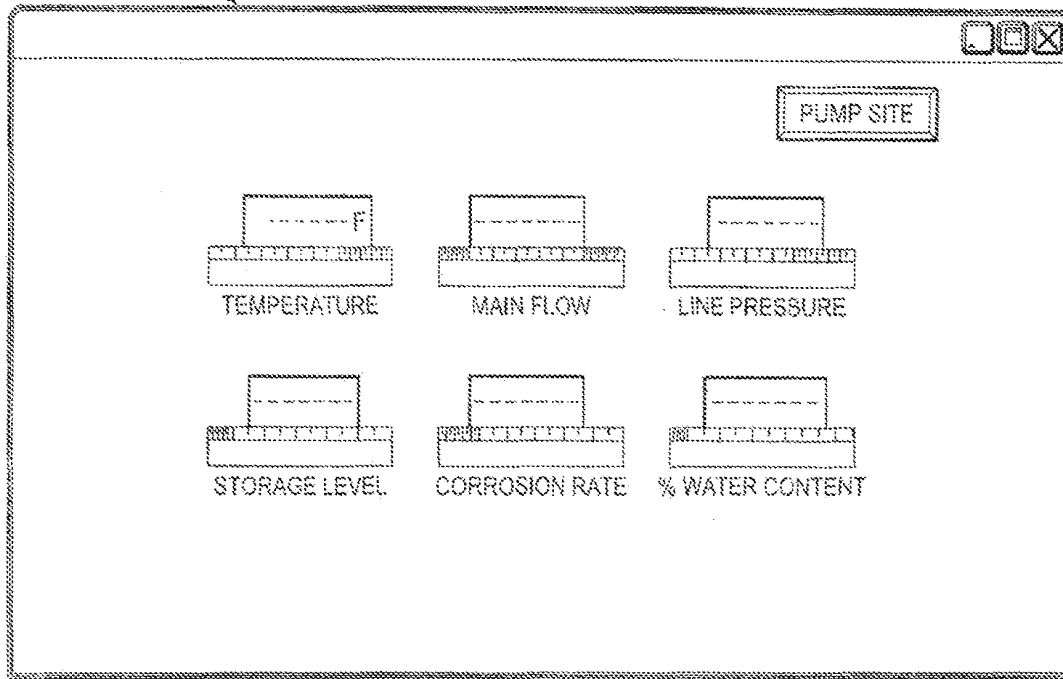
FIG. 2



400

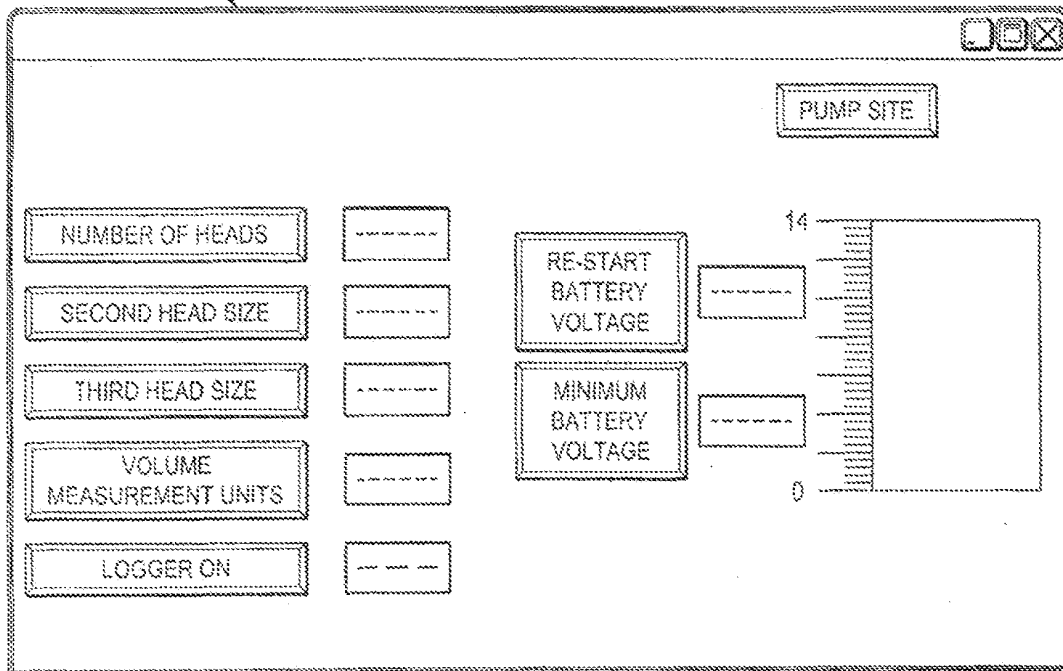
4/5

FIG. 4A



410

FIG. 4B



420

5/5

FIG. 4C

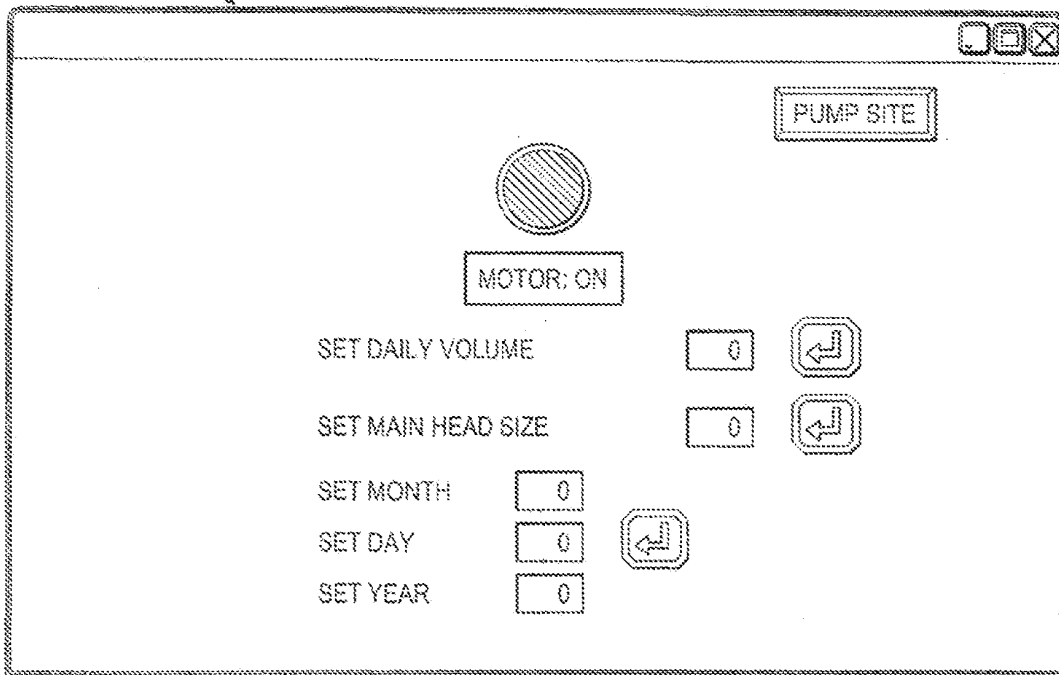


FIG. 4C is a screenshot of a control interface for a pump site. The interface is enclosed in a rectangular frame with a title bar at the top right containing three icons: a square, a circle, and an 'X'. In the top right corner of the main area, there is a button labeled "PUMP SITE". Below this button, there is a circular indicator with diagonal hatching. Underneath the indicator is a button labeled "MOTOR: ON". Further down, there are four rows of controls, each with a label on the left and a numeric input field followed by a directional arrow button on the right. The labels and their corresponding input values are: "SET DAILY VOLUME" with "0", "SET MAIN HEAD SIZE" with "0", "SET MONTH" with "0", "SET DAY" with "0", and "SET YEAR" with "0". The directional arrow buttons are arranged in a grid: two in the first row, two in the second row, and one centered under the third and fourth rows.

430

FIG. 4D

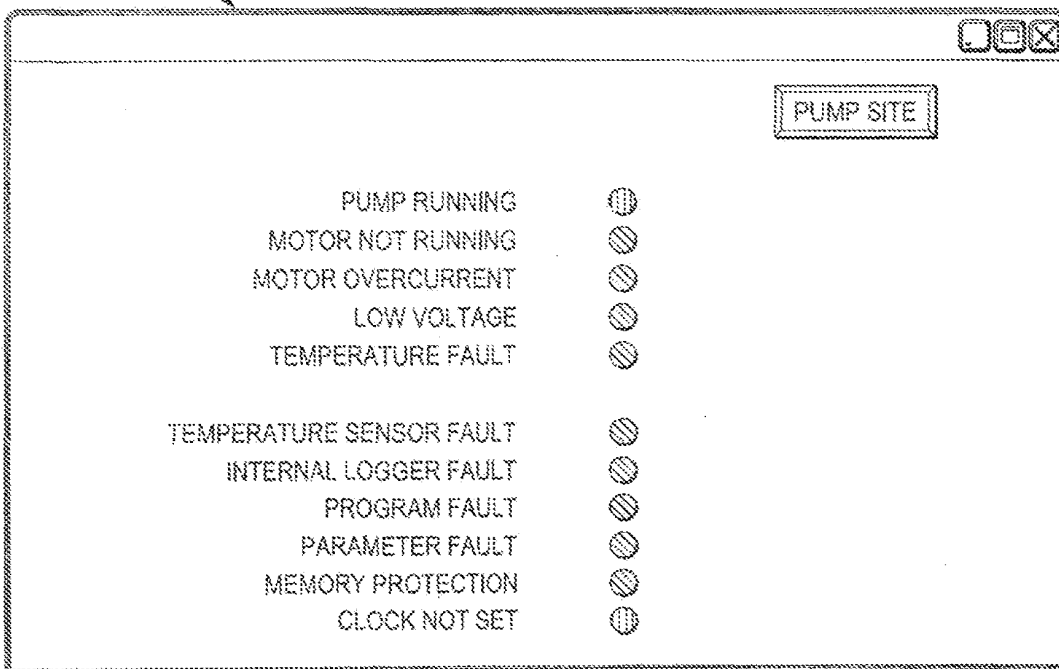


FIG. 4D is a screenshot of a status interface for a pump site. The interface is enclosed in a rectangular frame with a title bar at the top right containing three icons: a square, a circle, and an 'X'. In the top right corner of the main area, there is a button labeled "PUMP SITE". Below this button, there is a list of status indicators. Each indicator consists of a text label on the left and a circular icon with a specific pattern on the right. The labels and their corresponding icons are: "PUMP RUNNING" (vertical lines), "MOTOR NOT RUNNING" (diagonal lines from top-left to bottom-right), "MOTOR OVERCURRENT" (diagonal lines from top-right to bottom-left), "LOW VOLTAGE" (horizontal lines), "TEMPERATURE FAULT" (cross-hatch), "TEMPERATURE SENSOR FAULT" (diagonal lines from top-left to bottom-right), "INTERNAL LOGGER FAULT" (diagonal lines from top-right to bottom-left), "PROGRAM FAULT" (cross-hatch), "PARAMETER FAULT" (diagonal lines from top-left to bottom-right), "MEMORY PROTECTION" (diagonal lines from top-right to bottom-left), and "CLOCK NOT SET" (vertical lines).

COMBINED DECLARATION AND GLOBAL ASSIGNMENT
FOR UTILITY OR DESIGN PATENT APPLICATION

As the below named inventor(s), I/we hereby declare that:

This declaration and assignment are directed to:

CHEMICAL INJECTION SYSTEM

- ☐ the specification of which is attached hereto OR
- ☒ United States provisional application serial number
61/184,890 filed on June 8, 2009,
- ☒ United States application or PCT international application number
12/794,898 filed on June 7, 2010, and
- ☒ United States application or PCT international application number
_____ filed on _____, as
amended on [date] (if applicable).
(We hereby authorize and request the Company or its delegated attorneys or agents to
insert above the application number and filing date of the application when known.)

The above-identified application was made or authorized to be made by us.

We believe that we are original joint inventors of a claimed invention in the application.

We hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC § 1001 by fine or imprisonment of not more than five (5) years, or both.

We have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the patentability of this application as defined in 37 CFR § 1.56, including, for continuation-in-part applications, material information which became available between the filing date of the prior application and the filing date of the continuation-in-part application.

In accordance with our obligation(s) under an Employee Innovation and Proprietary Information Agreement or (as applicable) arising out of other agreements (such as, but not limited to, the Services Agreement between General Electric Company, a New York corporation, and our employers), and/or for other good and valuable consideration of which we acknowledge receipt, I/we,

Inventor First Name	Inventor Middle Name	Inventor Last Name		Residence Town	Residence State	Residence Country
Francisco	M.	Gutierrez	Of	League City	TX	US
Richard	D.	Atton	Of	Houston	TX	US
			Of			
			Of			

hereby sell and assign to:

Name of Company: <i>Dresser, Inc.</i>
Entity Type (optional):
Address: <i>15455 Dallas Parkway, Suite 1100, Addison, TX, 75001, USA</i>

herein referred to as "Company", its successors and assigns our entire respective rights, titles and interests in and to the invention and improvements made or conceived by us described in the application(s) listed above and in the following table:

Country of Filing	Type of Filing	Application Number	Filing Date	Title

(We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application(s) when known.)

and any and all applications for patent and patents therefrom in any and all countries, including all divisions, continuations, continuations-in-part, reexaminations, renewals, and reissues thereof, and all rights of priority resulting from the filing of the application(s), and authorize and request any official whose duty it is to issue patents, to issue any patent on the inventions and improvements resulting therefrom to the Company, or its successors or assigns, and agree that on request and without further consideration, we will communicate to the Company or its representatives or nominees any facts known to us respecting the inventions and improvements and testify in any legal proceeding, make all rightful oaths, sign all lawful papers and execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights in all countries including, but not limited to, any provisional, non-provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, for any derivation proceedings relating thereto, and, as to any patents that issue from such applications, for any supplemental examination, derivation proceeding, opposition, post grant review, reissue, re-examination, inter partes review, or extension thereof, and generally do everything possible to aid the Company, its successors, assigns, and nominees to obtain and enforce proper patent protection for the invention and its improvements in all countries.

Remuneration claims of the inventor(s)/assignor(s) potentially arising from German Law on Employee Inventions, or any other respective country law, remain unaffected by this assignment.

INVENTOR 1

Signature: [Signature]
Francisco M. Gutierrez

Date: 12/16/2014

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

[Signature]

Date: 12/16/2014

Francisco M. Gutierrez

STATE OF Texas

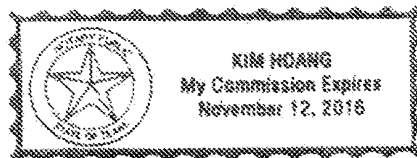
ss.

COUNTY OF HARRIS

This 16th day of December, 2014 before me personally came the above-named Francisco M. Gutierrez, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal Kim Hoang

(Notary Public)



INVENTOR 2

Signature: _____
Richard D. Alton

Date: _____

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

Richard D. Alton

Date: 12/16/14

Richard D. Alton

STATE OF Texas

ss.

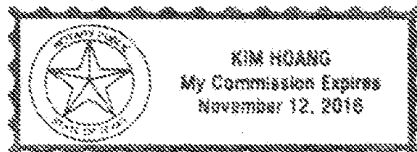
COUNTY OF HARRIS

This 16th day of December, 2014 before me personally came the above-named Richard D. Alton, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal/

Kim Hoang

(Notary Public)



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	255763; 11705.05602
		Application Number	
Title of Invention	CHEMICAL INJECTION SYSTEM		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove					
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Francisco	M.	Gutierrez		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Houston	State/Province	TX	Country of Residence	US
Mailing Address of Inventor:					
Address 1		16240 Port North West Drive			
Address 2					
City	Houston	State/Province	TX		
Postal Code	77041	Country i	US		
Inventor 2 Remove					
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Richard	D.	Atton		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Houston	State/Province	TX	Country of Residence	US
Mailing Address of Inventor:					
Address 1		16240 Port North West Drive			
Address 2					
City	Houston	State/Province	TX		
Postal Code	77041	Country i	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add					

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	255763; 11705.05602
		Application Number	
Title of Invention	CHEMICAL INJECTION SYSTEM		

☐ An Address is being provided for the correspondence information of this application.			
Customer Number	125443		
Email Address	ip@pfclaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	CHEMICAL INJECTION SYSTEM		
Attorney Docket Number	255763; 11705.05602	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	1

Filing By Reference :

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.											
<table border="1"> <tr> <td>Please Select One:</td> <td>☒ Customer Number</td> <td>☐ US Patent Practitioner</td> <td>☐ Limited Recognition (37 CFR 11.9)</td> </tr> <tr> <td>Customer Number</td> <td colspan="3">125443</td> </tr> </table>				Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)	Customer Number	125443		
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)								
Customer Number	125443										

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	255763; 11705.05602
		Application Number	
Title of Invention	CHEMICAL INJECTION SYSTEM		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12794898	2010-06-07
Prior Application Status	Expired		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12794898	Claims benefit of provisional	61184890	2009-06-08

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

			
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	255763; 11705.05602
		Application Number	
Title of Invention	CHEMICAL INJECTION SYSTEM		

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013. NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.
--

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application. In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application. In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.
--

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.
--

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	255763; 11705.05602
		Application Number	
Title of Invention	CHEMICAL INJECTION SYSTEM		

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

☒ Assignee	☐ Legal Representative under 35 U.S.C. 117	☐ Joint Inventor
☐ Person to whom the inventor is obligated to assign.	☐ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name Dresser, Inc.

Mailing Address Information For Applicant:

Address 1		15455 Dallas Parkway	
Address 2		Suite 1100	
City	Addison	State/Province	TX
Country	US	Postal Code	75001
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	255763; 11705.05602
		Application Number	
Title of Invention	CHEMICAL INJECTION SYSTEM		

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.				
Signature	/Michael J. Wasco/		Date (YYYY-MM-DD)	2014-12-22
First Name	Michael	Last Name	Wasco	Registration Number 58919
Additional Signature may be generated within this form by selecting the Add button.				

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3158669

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
FRANCISCO M GUTIERREZ	12/16/2014
RICHARD D ATTON	12/16/2014
RECEIVING PARTY DATA	
Name:	DRESSER, INC.
Street Address:	15455 DALLAS PARKWAY
Internal Address:	SUITE 1100
City:	ADDISON
State/Country:	TEXAS
Postal Code:	75001
PROPERTY NUMBERS Total: 3	
Property Type	Number
Application Number:	14579141
Application Number:	61184890
Application Number:	12794898
CORRESPONDENCE DATA	
Fax Number:	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
Phone:	802-658-2311
Email:	ip@pfclaw.com
Correspondent Name:	PAUL, FRANK & COLLINS/GE
Address Line 1:	ONE CHURCH STREET
Address Line 2:	P.O. BOX 1307
Address Line 4:	BURLINGTON, VERMONT 05402
ATTORNEY DOCKET NUMBER:	255763; 11705.05602
NAME OF SUBMITTER:	MICHAEL J WASCO
SIGNATURE:	/Michael J Wasco/
DATE SIGNED:	12/22/2014
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 5	

source=01255763GEOGPFC11705.05602Assignment22DECEMBER2014#page1.tif
source=01255763GEOGPFC11705.05602Assignment22DECEMBER2014#page2.tif
source=01255763GEOGPFC11705.05602Assignment22DECEMBER2014#page3.tif
source=01255763GEOGPFC11705.05602Assignment22DECEMBER2014#page4.tif
source=01255763GEOGPFC11705.05602Assignment22DECEMBER2014#page5.tif

COMBINED DECLARATION AND GLOBAL ASSIGNMENT
FOR UTILITY OR DESIGN PATENT APPLICATION

As the below named inventor(s), I/we hereby declare that:

This declaration and assignment are directed to:

CHEMICAL INJECTION SYSTEM

- ☐ the specification of which is attached hereto OR
- ☒ United States provisional application serial number
61/184,890 filed on June 8, 2009,
- ☒ United States application or PCT international application number
12/794,898 filed on June 7, 2010, and
- ☒ United States application or PCT international application number
14/579,141 filed on December 22, 2014, as
amended on [date] (if applicable).
(We hereby authorize and request the Company or its delegated attorneys or agents to
insert above the application number and filing date of the application when known.)

The above-identified application was made or authorized to be made by us.

We believe that we are original joint inventors of a claimed invention in the application.

We hereby acknowledge that any willful false statement made in this declaration is punishable
under 18 USC § 1001 by fine or imprisonment of not more than five (5) years, or both.

We have reviewed and understand the contents of the above-identified application,
including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the patentability of this
application as defined in 37 CFR § 1.56, including, for continuation-in-part applications, material
information which became available between the filing date of the prior application and the filing
date of the continuation-in-part application.

In accordance with our obligation(s) under an Employee Innovation and Proprietary Information
Agreement or (as applicable) arising out of other agreements (such as, but not limited to, the
Services Agreement between General Electric Company, a New York corporation, and our
employers), and/or for other good and valuable consideration of which we acknowledge receipt,
I/we,

Inventor First Name	Inventor Middle Name	Inventor Last Name		Residence Town	Residence State	Residence Country
Francisco	M.	Gutierrez	Of	League City	TX	US
Richard	D.	Atton	Of	Houston	TX	US
			Of			
			Of			

hereby sell and assign to:

Name of Company: <i>Dresser, Inc.</i>
Entity Type (optional):
Address: <i>15455 Dallas Parkway, Suite 1100, Addison, TX, 75001, USA</i>

herein referred to as "Company", its successors and assigns our entire respective rights, titles and interests in and to the invention and improvements made or conceived by us described in the application(s) listed above and in the following table:

Country of Filing	Type of Filing	Application Number	Filing Date	Title

(We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application(s) when known.)

and any and all applications for patent and patents therefrom in any and all countries, including all divisions, continuations, continuations-in-part, reexaminations, renewals, and reissues thereof, and all rights of priority resulting from the filing of the application(s), and authorize and request any official whose duty it is to issue patents, to issue any patent on the inventions and improvements resulting therefrom to the Company, or its successors or assigns, and agree that on request and without further consideration, we will communicate to the Company or its representatives or nominees any facts known to us respecting the inventions and improvements and testify in any legal proceeding, make all rightful oaths, sign all lawful papers and execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights in all countries including, but not limited to, any provisional, non-provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, for any derivation proceedings relating thereto, and, as to any patents that issue from such applications, for any supplemental examination, derivation proceeding, opposition, post grant review, reissue, re-examination, inter partes review, or extension thereof, and generally do everything possible to aid the Company, its successors, assigns, and nominees to obtain and enforce proper patent protection for the invention and its improvements in all countries.

Remuneration claims of the inventor(s)/assignor(s) potentially arising from German Law on Employee Inventions, or any other respective country law, remain unaffected by this assignment.

INVENTOR 1

Signature: [Signature]
Francisco M. Gutierrez

Date: 12/16/2014

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

[Signature]

Date: 12/16/2014

Francisco M. Gutierrez

STATE OF Texas

COUNTY OF HARRIS

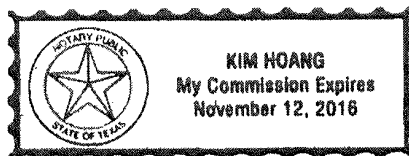
ss.

This 16th day of December, 2014 before me personally came the above-named Francisco M. Gutierrez, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

Kim Hoang

(Notary Public)



INVENTOR 2

Signature: _____
Richard D. Atton

Date: _____

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

Richard D Atton

Date: 12/16/14

Richard D. Atton

STATE OF Texas

ss.

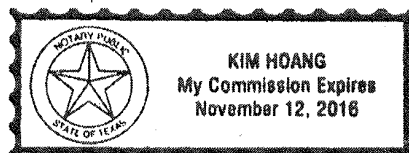
COUNTY OF HARRIS

This 16th day of December, 2014 before me personally came the above-named Richard D. Atton, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

Kim Hoang

(Notary Public)





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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
14/579,141	12/22/2014	3723	1600	255763; 11705.05602	20	3

CONFIRMATION NO. 7440

125443
Paul, Frank & Collins/GE
One Church Street
P.O. Box 1307
Burlington, VT 05402

FILING RECEIPT



OC000000072764528

Date Mailed: 01/08/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Francisco M. Gutierrez, Houston, TX;
Richard D. Atton, Houston, TX;

Applicant(s)

Dresser, Inc., Addison, TX

Power of Attorney: The patent practitioners associated with Customer Number 125443

Domestic Priority data as claimed by applicant

This application is a CON of 12/794,898 06/07/2010
which claims benefit of 61/184,890 06/08/2009

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 01/08/2015

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/579,141**

Projected Publication Date: 04/16/2015

Non-Publication Request: No

Early Publication Request: No

page 1 of 3

Title

CHEMICAL INJECTION SYSTEM

Preliminary Class

451

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No**PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 14/579,141				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280			
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720			
TOTAL CLAIMS (37 CFR 1.16(j))	20 minus 20 =	*				x 80 =	0.00			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 420 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
				TOTAL		TOTAL	1600			
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x =			x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =			x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE			TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.										
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".										
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602

CONFIRMATION NO. 7440

PUBLICATION NOTICE



125443
Paul, Frank & Collins/GE
One Church Street
P.O. Box 1307
Burlington, VT 05402

Title:CHEMICAL INJECTION SYSTEM

Publication No.US-2015-0105909-A1

Publication Date:04/16/2015

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publicly available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440
125443	7590	03/09/2016	EXAMINER	
Paul, Frank & Collins/GE			GORDON, BRIAN R	
One Church Street			ART UNIT	PAPER NUMBER
P.O. Box 1307			1798	
Burlington, VT 05402			MAIL DATE	DELIVERY MODE
			03/09/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/579,141	Applicant(s) GUTIERREZ ET AL.	
	Examiner BRIAN R. GORDON	Art Unit 1798	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 12-22-14.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1-20 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☐ Claim(s) ____ is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some** c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.

4) ☐ Other: ____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10 and 13-14, drawn to a method of monitoring a pipeline, classified in C10G 73/38.
 - II. Claims 11-12, drawn to a monitoring system, classified in G01N 30/34.
 - III. Claims 15-20, drawn to an injection system, classified in G01N 30/24.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and (II and III) are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case process is not required to be practiced by the apparatuses of Groups II and III. The different apparatuses are not restricted to being used with a pipeline. Therefore the apparatuses can be used to practice different processes. Furthermore, each of the method steps are not required to be practiced by the apparatuses of Groups II and III
3. Inventions II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and

(2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because combination of Group II does not require the specific injection system of Group III including a chemical injection system including a monitoring module and controller including processor in communication with the monitoring module. The subcombination has separate utility such as dispersing material within a liquid system other than a hydrocarbon stream or pipeline.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

4. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and/or examination burden if restriction were not required because one or more of the following reasons apply:

The inventions have different classifications in the art. Thus, the inventions require different searches.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 or pre-AIA 35 U.S.C. 103(a) of the other invention.

5. Claim(s) 1, 5, 7, and 15 is/are generic to the following disclosed patentably distinct species:

If applicant elects Group I, applicant must also elect one from each of the following species:

I. Claim 5: Applicant must elect one of the operational parameters.

II. Claim 7:

- A. corrosion inhibitor
- B. paraffin inhibitor
- C. demulsifier
- D. ethanol
- E. foamer

III. location of accounting

- A. claim 8 – remote center
- B. claim 9 - one or more chemical injection system

If applicant elects Group III, applicant must also elect one from each of the following species:

IV. Claim 19:

- A. corrosion inhibitor
- B. paraffin inhibitor
- C. demulsifier
- D. ethanol
- E. foamer

V. Claim 20: Applicant must elect one of the operational parameters.

6. The species are independent or distinct because as disclosed the different species have mutually exclusive characteristics for each identified species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, or a single grouping of patentably indistinct species, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

There is a search and/or examination burden for the patentably distinct species as set forth above because at least the following reason(s) apply:

The different species elements have mutually different characteristics. They require different searches and are not obvious variants .

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or a grouping of patentably indistinct species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species** or grouping of patentably indistinct species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time

of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species or grouping of patentably indistinct species.

Should applicant traverse on the ground that the species, or groupings of patentably indistinct species from which election is required, are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 or pre-AIA 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

7. A telephone call was made to Paul, Frank & Collins on March 4, 2016 to request an oral election to the above restriction requirement, but did not result in an election being made.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be corrected in compliance with 37 CFR 1.48(a) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. A request to correct inventorship under 37 CFR 1.48(a) must be accompanied by an application data sheet in accordance with 37 CFR 1.76 that

identifies each inventor by his or her legal name and by the processing fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN R. GORDON whose telephone number is (571)272-1258. The examiner can normally be reached on M-F, 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN R GORDON/
Primary Examiner, Art Unit 1798

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Francisco M. Gutierrez	Examiner:	Brian R. Gordon
Appl. No.:	14/579,141	Art Unit:	1798
Filed:	December 22, 2014	Confirmation No.:	7440
		Atty Docket No.:	255763; 11705.05602

Title: **CHEMICAL INJECTION SYSTEM**

VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO ELECTION/RESTRICTION REQUIREMENT

Sir:

In reply to the Election/Restriction Requirement mailed March 09, 2016, to which a reply is due by May 09, 2016, please amend and reconsider the above-identified patent application as noted herein. Pursuant to 35 U.S.C. §121 and MPEP §818, Applicants herein provisionally elect to prosecute claims 1-10 (Group I), with traverse. Applicants do not believe any fees are due.

Amendments to the Claims are reflected in the Listing of Claims, which begin on page 2 of this Reply; and

Remarks/Arguments begin on page 9 of this Reply.

LISTING OF CLAIMS

A listing of all claims and their current status in accordance with 37 C.F.R. §1.121(2) is provided below. This listing of claims replaces all prior versions and listings of claims in the application.

1. (Original) A method, comprising:

monitoring a hydrocarbon stream in a hydrocarbon pipeline with a monitoring module in fluid communication with the hydrocarbon pipeline, the monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of the hydrocarbon stream;

injecting an amount of one or more chemical fluids adapted to treat the hydrocarbon stream via one or more chemical injection systems in fluid communication with the hydrocarbon pipeline;

accounting for a relative distance between each of the one or more chemical injection systems and the monitoring module; and

adapting the amount of the one or more chemical fluids in accordance with the relative distance for each of the one or more chemical injection systems to provide a substantially uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

2. (Original) The method of claim 1, further comprising:

receiving, at a controller, data from the one or more sensor devices in a first communication protocol;

processing the data at the controller; and

generating, at the controller, a command in a second communication protocol that is different from the first communication protocol, wherein the command instructs the one or more chemical injection systems to regulate the amount of the one or more chemical fluids.

6698971_2:11705-05602

3. (Original) The method of claim 2, further comprising:
- receiving, at a motor controller, the command;
- processing the command at the motor controller; and
- modulating, at the motor controller, power supplied to a motor in response to the command to operate a pump to disperse the amount of the one or more chemical fluids.
4. (Original) The method of claim 3, wherein the motor controller is configured to respond to one type of the second communication protocol.
5. (Original) The method of claim 1, wherein the one or more operational parameters comprise at least one of the following:
- a fluidic pressure in the hydrocarbon transmission system;
 - a fluidic flow rate in the hydrocarbon transmission system;
 - a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
 - an operational parameter of the motor;
 - a controller temperature;
 - a battery voltage;
 - a motor current;
 - a solar cell charge current; and
 - one or more fault conditions.

6698971_2:11705-05602

6. (Original) The method of claim 1, further comprising:

wirelessly transmitting a signal representative of the one or more operational parameters from the one or more sensor devices to the one or more chemical injection systems.

7. (Original) The method of claim 1, wherein the one or more chemical fluids comprise at least one of:

a corrosion inhibitor;

a paraffin inhibitor;

a demulsifier;

an ethanol; and

a foamer.

8. (Original) The method of claim 1, wherein accounting for the relative distances between the one or more chemical injection systems and the monitoring module is performed at a remote control center located apart from the pipeline.

9. (Original) The method of claim 1, wherein accounting for the relative distances between the one or more chemical injection systems and the monitoring module is performed at the one or more chemical injection system.

10. (Original) The method of claim 1, wherein the hydrocarbon pipeline is configured to connect in fluid communication with one or more hydrocarbon production sites.

6698971_2:11705-05602

11. (Withdrawn) A system for monitoring operation of a hydrocarbon pipeline, said system comprising:

a monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of hydrocarbon stream disposed in a hydrocarbon pipeline; and

one or more chemical injection systems in fluid communication with the hydrocarbon stream, the one or more chemical injection systems comprising a chemical reservoir containing a chemical fluid adapted to treat the hydrocarbon stream and configured to account for relative distances between the one or more chemical injection systems and the monitoring module, thereby providing a substantially uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

12. (Withdrawn) The system of claim 11, further comprising a transceiver communicably coupled to the control center through a communications network, the transceiver in wireless communication with the chemical injection system.

13. (Withdrawn – currently amended) The system of claim ~~[[8]]~~12, further comprising one or more communication stations in wireless communication with the chemical injection system and the transceiver, each communication station adapted to relay operational parameters of the chemical injection system in the form of wireless signals between the transceiver and the chemical injection system.

14. (Withdrawn – Currently amended) The ~~chemical injection~~ system of claim ~~[[10]]~~11, further comprising a controller in communication with the monitoring module, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more

6698971_2:11705-05602

operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

15. (Withdrawn – Currently amended) A ~~chemical injection~~ system, comprising:

a monitoring module comprising one or more sensor devices configured to detect one or more operational parameters of a hydrocarbon stream;

a controller in communication with the monitoring module; and

a chemical injection system in communication with the monitoring module and the controller, the chemical injection system configured to disperse a chemical fluid into a pipeline to treat the hydrocarbon stream disposed therein,

wherein the controller comprises a processor configured to account for relative distances between the chemical injection system and the monitoring module, and

wherein the controller is configured to generate a command that instructs the chemical injection system to regulate an amount of chemical fluid in response to the one or more operational parameters and the relative distance to disperse a substantially uniformly consistent quantity of the chemical fluid into the pipeline to treat the hydrocarbon stream.

16. (Withdrawn – Currently amended) The ~~chemical injection~~ system of claim 15, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

6698971_2:11705-05602

17. (Withdrawn – Currently amended) The ~~chemical injection~~ system of claim 16, wherein the chemical injection system comprises a motor controller coupled with the controller, a motor coupled with the motor controller, and a pump configured to disperse the chemical fluid, and wherein the motor controller is configured to supply power to the motor in response to the command to operate a pump to disperse the amount of the one or more chemical fluids.

18. (Withdrawn – Currently amended) The ~~chemical injection~~ system of claim 17, wherein the motor controller is configured to respond to one type of the second communication protocol.

19. (Withdrawn – Currently amended) The ~~chemical injection~~ system of claim 15, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;
- a demulsifier;
- an ethanol; and
- a foamer.

20. (Withdrawn – Currently amended) The ~~chemical injection~~ system of claim 15, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;

6698971_2:11705-05602

an operational parameter of the motor;
a controller temperature;
a battery voltage;
a motor current;
a solar cell charge current; and
one or more fault conditions.

6698971_2:11705-05602

REMARKS

Applicants submit this paper in response to the Election/Restriction Requirement dated March 9, 2016 ("Restriction"). In this Reply, Applicants provisionally elect to prosecute claims 1-10 with traverse. Applicants herein withdraw claims 11-20. Applicants also amend claims 13-20 to remedy certain deficiencies in these claims.

Applicants believe these Remarks are fully responsive to the issues in the Restriction. The amendments add no new subject matter. Claims or subject matter cancelled or withdrawn is done so without prejudice or disclaimer and, moreover, Applicants reserve all right to pursue such cancelled or withdrawn claims or subject matter in divisional or continuation applications. Applicants further believe all claims pending upon entry of this Reply are patentable over any art of record.

Reconsideration of the pending application in view of the following remarks is respectfully requested.

Response to Election/Restriction Requirement

The Office restricts prosecution under 35 U.S.C. §121, alleging the following:

(1) claims 1-20 are drawn to the following inventive groups:

I. Claims 1-10, 13 and 14, drawn to a method of monitoring a pipeline, classified in G10G 73/38;

II. Claims 11 and 12, drawn to a monitoring system, classified in G01N 30/34; and

III. Claims 15-20, drawn to an injection system, classified in G01N 30/24; and

(2) claims 1, 5, 7, and 15 are generic and, thus, Applicants must elect from one of the various species the Office identifies among these claims.

6698971_2:11705-05602

As noted above, Applicants provisionally elect, with traverse, to prosecute claims 1-10 (Group I) and, in consideration of the proposed species, elects the corrosion inhibitor in claim 19 and fluidic pressure in claim 20. Applicants herein withdraw claims 11-20 (Groups II and III) from further examination. Applicants note, however, that election to withdraw claims 11-20 is made without prejudice or disclaimer, and should not be construed as Applicants' acquiescence to any position the Office takes in this Restriction. Applicants ask for rejoinder of any and all claims if appropriate. And, in the event the Restriction is maintained, Applicants herein reserve the right to file one or more divisional and/or continuation applications directed to any non-elected and/or cancelled subject matter.

Applicants traverse the restriction because Office fails to show that "[t]here would be a serious search burden on the examiner if restriction is not required." See MPEP §803.01. Applicants note that each of the claims 1-20 recite, either directly or indirectly, a chemical injection system and monitoring module, or the operative functionality thereof. The monitoring module is useful to "detect the relative amount of chemical additives injected into the pipeline 205 by the one or more chemical injection systems 210." See U.S. Patent Application Publication 2015/0105909 at paragraph [0054]. It logically follows that any search for any of the "method" of claim 1-10, the "monitoring system" of claims 11-14, or the "system" of claim 15-20 would likely uncover references that describe, at the very least, configurations that can disperse such chemical additives as set forth in the claims. It further follows then that there is no undue burden on the Office to search and examine the claims 1-20 because there exists a relevant nexus among the subject matter of the claims.

Withdrawal of the restriction is therefore respectfully requested.

6698971_2:11705-05602

CONCLUSION

In view of the foregoing remarks, Applicants respectfully submit that all issues the Examiner raises have been addressed, and that the application is in condition for allowance. A timely allowance is earnestly solicited for at least claims 1-10.

This paper constitutes Applicants' earnest attempt to place this case in condition for allowance. Applicants reserve all rights and arguments with respect to all other limitations and distinctions not expressly noted above. To the extent that any claim amendments Applicants present herein constitute a narrowing of the scope of claimed subject matter, such narrowing should not be construed as admitting the merits of any of the claim rejections. That is, the Office should not construe anything in this paper as Applicants' intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the amended claim prior to amendment.

Moreover, the absence of a reply to any specific rejection, issue, or comment does not signify Applicants' agreement with or concession to that rejection, issue, or comment. Applicants' failure (if at all) to expressly address any particular statement or argument by the Examiner should not be construed as an admission or acquiescence that such statement or argument is accurate or proper. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that Applicants have not expressed herein.

If the Examiner believes that a telephone conference with the Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Respectfully submitted,

PAUL FRANK + COLLINS P.C.

/Michael J. Wasco/

6698971_2:11705-05602

Application No. 14/579,141
Reply to Restriction/Election of March 09, 2016

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Customer No.: 125443

Date: 29 April 2016

6698971_2:11705-05602

12 of 12

Electronic Acknowledgement Receipt	
EFS ID:	25636038
Application Number:	14579141
International Application Number:	
Confirmation Number:	7440
Title of Invention:	CHEMICAL INJECTION SYSTEM
First Named Inventor/Applicant Name:	Francisco M. Gutierrez
Customer Number:	125443
Filer:	Michael J. Wasco
Filer Authorized By:	
Attorney Docket Number:	255763; 11705.05602
Receipt Date:	29-APR-2016
Filing Date:	22-DEC-2014
Time Stamp:	12:38:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	01Transmittal.pdf	186189	no	2
			a374801442aaaa87c03a5a97221914bd0b4497e6		
Warnings:					
Information:					

2	Response to Election / Restriction Filed	02Reply.pdf	89727	no	12
			c3f56c97eeb13719fbbd46b77219087e05271d		
Warnings:					
Information:					
			Total Files Size (in bytes):	275916	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	14/579, 141 - conf # 7440	
	Filing Date	December 22, 2014	
	First Named Inventor	Francisco M. Gutierrez	
	Art Unit	1798	
	Examiner Name	Brian R. Gordon	
Total Number of Pages in This Submission	13	Attorney Docket Number	255763; 11705.05602

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☒ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☐ Other Enclosure(s) (please identify below):
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	PAUL FRANK + COLLINS P.C.		
Signature	/Michael J. Wasco/		
Printed name	Michael J. Wasco		
Date	29 April 2016	Reg. No.	58,919

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/579,141	Filing Date 12/22/2014	☐ To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED (Column 1)	NUMBER EXTRA (Column 2)	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	04/29/2016	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						LIE /EMORY LANE/	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440
125443	7590	05/25/2016	EXAMINER	
Paul, Frank & Collins/GE			GORDON, BRIAN R	
One Church Street			ART UNIT	PAPER NUMBER
P.O. Box 1307			1798	
Burlington, VT 05402			MAIL DATE	DELIVERY MODE
			05/25/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/579,141	Applicant(s) GUTIERREZ ET AL.	
	Examiner BRIAN R. GORDON	Art Unit 1798	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 4-29-16.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1-20 is/are pending in the application.
5a) Of the above claim(s) 9 and 11-20 is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1-8 and 10 is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some** c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.

4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Election/Restrictions

2. Applicant's election with traverse of Group I, claims 1-10, in the reply filed on April 29, 2016 is acknowledged. The traversal is on the ground(s) that because Office fails to show that "[t]here would be a serious search burden on the examiner if restriction is not required." See MPEP §803.01. Applicants note that each of the claims 1-20 recite, either directly or indirectly, a chemical injection system and monitoring module, or the operative functionality thereof. This is not found persuasive because claims may directly or indirectly recite a common structure is not the standard for establishing whether or not a Restriction is proper or not. Furthermore, as stated in the prior the different inventions are distinct have different classifications are require different searches in the art.

The requirement is still deemed proper and is therefore made FINAL.

3. It is noted that the filed response is incomplete for failing to elect from the species of Group I. However, the examiner phoned Michael Wasco on May 16, 2016 and applicant elected: a fluidic pressure in the hydrocarbon transmission system (claim 5); a corrosion inhibitor (claim 7); and claim 8 for examination.

4. Claims 9 and 11-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species or invention, there being no allowable generic or linking claim.

Claim Interpretations

5. It is noted that the term “or more” is directed to alternatives not requirements. Therefore, for example in claim 1, it is only required that the monitoring module comprise one sensor and only one chemical fluid be injected. It is noted that the monitoring module is only defined as one sensor that can detect one operational parameter.... Therefore, a sensor is a monitoring module. It is further noted that the term, “fluid” is a liquid or a gas.

6. It is further noted that the accounting and adapting steps are not required to be done by any specific structure and are not precluded from being done manually/mentally.

7. It is further noted that claim 1 does not positively require any actual distance to exist between a chemical injection system and the monitoring module nor does the claim provide for any specific distance value. Therefore, the claim does not preclude from there being no distance between the elements. Thus, the value of such distance would be zero and no need to “account” for any such distance.

8. As to claim 2, it is noted that the phrase, “to regulate the amount of one or more fluids” is not required to have any specific action to occur nor at any specific location. The wherein clause defines the command, but does not require any further active step

to occur. It is not required that any step other step than generating such a command occurs.

9. Similar to claim 2, it is noted that while modulating power is required, no further steps are required. The “to” clause is directed to the purpose of the modulating. It is further noted that there is relationship between the pump of claim 3 and chemical injection system of claim 1. There is no clear nexus between the steps of 2-3, 6, and 8 as to that determine where the steps occur relative to that of claim 1 and or how the further steps of the dependent claims are related to those of claim 1.

10. As to claim 8, it is noted is noted the phrase “remote control center” is noted limited to any specific structure nor location. The phrase not precluded from being a “room”, vehicle, shelter, or any other broad location at some undefined location/distance from the pipeline.

11. As to claim 10, it is noted that one or more hydrocarbon production sites are not claimed as an element of any structure employed in any of the active steps, nor defined by any specific structure. However, such a “site” could be some, broad, arbitrary location.

Claim Rejections - 35 USC § 112

12. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-3, and 8 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

As to claims 1 and 8, it is unclear who or what performs the accounting and adapting steps.

As to claims 2-3 and 8, it is unclear if the phrases “at a controller” and “at a remote center” are meant to reference a location of a specific structural element. The claim as drafted does not limit the controller to either. As such, it is unclear if the controller is intended to what executes the respective steps or if there is some other structure, person, etc. at the controller performs the respective steps.

While claim 8 establishes where the accounting step is performed, it is unclear who or what is required to perform the step. Furthermore, it is unclear how such a step would be performed because claims 1 and 8 only require the presence of one chemical injection system and the claim has not positively established that one distance exists between the one chemical injection system. Therefore, it is unclear what relative distances are being referenced by the phrase “the relative distances”. Therefore, there is no antecedent basis for “the relative distances”.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-8 and 10 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Greening et al., US 2009/0095351.

Greening et al. disclose a pipeline additive injection system including: an injection pump for injecting an amount of additive (anti-corrosion agent, anti-freeze agent, de-waxing agent) into a pipeline; a battery for powering the injection pump; system sensors to monitor system conditions; and a controller for retrieving system data from the system sensors and for controlling operation of the injection pump based on the system data to achieve additive injection compensation. (Abstract; paragraphs 0005-0007).

The system comprises a pipeline 10, tank 12, a pump 14 in communication with pump motor 22, motor 22 controlled by controller 20, as by use of a relay 24 or other power regulator. Power supply 28 (power module) may for example include batteries 30, a power generator such as a solar panel 32, battery charger 34 and power output 35. Controller 20 may operate with sensors such as any or all of: a solar panel charging voltmeter 36, a battery voltage/quality indicator 37 such as an analog battery voltage meter, a pipeline pressure sensor 38 (monitoring module), a pipeline contents temperature sensor 40, a fluid level sensor 42 and a pump motor encoder 44. Controller 20 communicates with the sensors through connections 48 and wired or wireless

communications 46a to 46f. As such, the controller effectively is able to determine operational data relating to any of the system conditions such as additive supply via sensor 42, power availability through voltmeter 34 and indicator 36, pipeline contents conditions such as flow pressure and temperature via sensors 38 and 40 and motor condition such as power usage or motor drive rotation speed (motor speed, drive frequency) applicable to injected additive volume metering, as by use of encoder 44 with or without considering fluid compressibility, pipeline and additive temperature, pipeline pressure and pump efficiency. (Figures 1 and 3; paragraphs 0023-0025).

Controller 20 may further communicate with external systems through a data communications system 50 (translator) and include a central processor 164 (controller). System 50 may provide wired or wireless communications 52 for external control (i.e. remote control) of controller 20, and thereby the additive system as a whole, external data collection and/or may allow data collected by the controller to be sent to offsite systems, including a remote weather station (remote control). (paragraph 0026 and 0037).

Data communications such as data transfer and external control inputs/outputs 152 can be achieved via data communication system 150. System 150 may include any communication protocols, as desired. For example, the system may support analog or digital communications including any or all communication protocols of CANBUS, IRDA, RS485, etc. In one embodiment, for example, IRDA protocol may provide wireless (wireless signals) data transferring capabilities to allow uploads of data from memory

even in a potentially hazardous environment. (transmission of commands via different communication protocols, paragraph 0030).

Figure 3, illustrates and embodiment with a plurality injection systems including a plurality of motors, pumps, and tanks including different injection fluids (anti-freeze, de-waxing, and anti-corrosion agents Based on the flow of pipeline contents, determine 395 how much anti-corrosion agent should be added. This may be simply a factor of whether or not there is a flow of pipeline contents detected at step 393 or may include a consideration of other data such as a review of pipeline contents, as from programmed information, a communication to external systems or data obtained from sensors (not shown) within the pipeline monitoring for the presence of corrosive chemicals. In one embodiment, the volume of anti-corrosion agent injected to the pipeline, as may be determined by the frequency or duration at which pump 214c is driven, may be dependent on the rate of flow of pipeline contents. (paragraph 0046).

The controller may analyse pipeline pressure conditions to decide whether a pressure build up or flow blockage is occurring. This analysis may be based on a comparison against historic flow data or programmed expected flow information. (paragraph 0047).

The controller can proceed with a pump routine to achieve all injections. (paragraph 0050).

Greening et al. does not disclose refer to the elements by the same terms of the claims. For example, the offsite systems are not referenced as a remote control center. However, it would have been inherent if not obvious to recognize such systems which

may include a weather station that may be referenced as a remote computer/computing/control center.

The injection system of Greening is not classified as a hydrocarbon system. However, it is obvious if inherently known that pipelines are employed for transporting hydrocarbons (crude oil, gas, fuel, etc.). The term pipeline is conventionally known by definition in the art as a long tubular conduit or series of pipes, often underground, that may include pumps and valves for flow control, used to transport materials such as crude oil (hydrocarbons), natural gas (hydrocarbons), petroleum (hydrocarbon), fuel (hydrocarbon) etc., especially over great distances.

The Applicant is advised that the Supreme Court recently clarified that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the Supreme Court explained that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. Furthermore, the simple substitution of one known element for another is likely to be obvious when predictable results are achieved. See *KSR Int’l v.*

Teleflex Inc., 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

As to accounting for a relative distance between a monitoring module (sensor) and chemical injection system, it is noted that Greening does disclose that various sensors for determining different parameters, conditions (in which such distance would be directly or indirectly accounted for) are employed for monitoring the pipeline and injecting additives in response to such monitoring. (see paragraphs 0012-13).

Accounting for such distance (and various other factors), would have been inherent, and if not inherent well within the common sense and routine skill of one of ordinary skill in the art at the time of the invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN R. GORDON whose telephone number is (571)272-1258. The examiner can normally be reached on M-F, 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN R. GORDON/
Primary Examiner, Art Unit 1798

Complete if Known

(Use as many sheets as necessary)

Sheet 1 of 2

Application Number	Not yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Francisco M. Gutierrez
Art Unit	N/A
Examiner Name	Not yet Assigned
Attorney Docket Number	255763; 11705.05602

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ¹ (if known)			
	AA	US- 2009/0095351	04-2009	Greening et al	
	AB	US- 7,878,250	02-2011	Sheldon, Michael L.	
	AC	US- 7,711,486	05-2010	Thigpen et al	
	AD	US- 7,389,787	06-2008	Means et al	
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	AH	US- 4,196,169 A	04-01-1980	Gabin et al	
	AI	US- 5,104,621 A	04-14-1992	Pfost	
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	AM	US- 5,333,675 A	08-02-1994	Mullis	
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	AR	US- 5,908,599 A	06-01-1999	Behringer	
	AS	US- 5,961,923 A	10-05-1999	Nova	

[illegible]

05/16/2016

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND**
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	Not yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	Francisco M. Gutierrez
Art Unit	N/A
Examiner Name	Not yet Assigned
Attorney Docket Number	255763; 11705.05602

Sheet 2 of 2

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AT	US- 6,063,339 A	05-16-2000	Tisone et al	
	AU	US- 6,093,574 A	07-25-2000	Druyor-Sanchez	
	AV	US- 6,416,713 B1	07-09-2002	Ford	
	AW	US- 6,644,848 B1	11-11-2003	Clayton et al	
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	BE	US- 8,147,773 B2	04-03-2012	Lemme	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner
Signature

/Brian Gordon/

Date
Considered

05/16/2016

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.G./

Search Notes 	Application/Control No. 14579141	Applicant(s)/Patent Under Reexamination GUTIERREZ ET AL.
	Examiner BRIAN R GORDON	Art Unit 1798

CPC- SEARCHED		
Symbol	Date	Examiner
F17D 3/01, 3/12, 3/18; G05D 11/138	5/16/2016	BG

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
consulted prior application 12/794,898; 12/174,525	5/16/2016	BG

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/BRIAN R GORDON/ Primary Examiner.Art Unit 1798
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Francisco M. Gutierrez	Examiner:	Brian R. Gordon
Appl. No.:	14/579,141	Art Unit:	1798
Filed:	December 22, 2014	Confirmation No.:	7440
		Atty Docket No.:	255763; 11705.05602

Title: **CHEMICAL INJECTION SYSTEM**

VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY UNDER 37 C.F.R. §1.111

AMENDMENT UNDER 37 C.F.R. §1.121

Sir:

In response to the Non-Final Office Action mailed May 25, 2016, to which a reply is due without extension by August 25, 2016, please amend and reconsider the above-identified patent application as noted herein. Applicants do not believe any fees are due.

Amendments to the Claims are reflected in the Listing of Claims that begin on page 2 of this Reply; and

Remarks/Arguments begin on page 9 of this Reply.

LISTING OF CLAIMS

A listing of all claims and their current status in accordance with 37 C.F.R. §1.121(2) is provided below. This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended) A method, comprising:

monitoring a hydrocarbon stream in a hydrocarbon pipeline with a monitoring module in fluid communication with the hydrocarbon pipeline, the monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of the hydrocarbon stream;

injecting an amount of one or more chemical fluids adapted to treat the hydrocarbon stream via a pair of ~~one or more~~ chemical injection systems remote from the monitoring module and in fluid communication with the hydrocarbon pipeline;

consolidating first signals from the pair of chemical injection systems at a first communication station, the first signals in a first communication protocol and a second communication protocol that is different from the first communication protocol;

using the first communication station, exchanging a second signal with a second communication station; and

using a controller remote from the pair of chemical injection system, processing the second signal from the second communication station to accounting for a relative distance between each of the pair of ~~one or more~~ chemical injection system[[s]] and the monitoring module; and so as to adapting the amount of the one or more chemical fluids in accordance with the relative distance for the pair of ~~each of the one or more~~ chemical injection system[[s]] by operating a pump motor, via the first signals and the second signal, to provide a ~~substantially~~ uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

2. (Canceled)

3. (Currently amended) The method of claim [[2]] 1, further comprising:

receiving, at a motor controller, the command;

processing the command at the motor controller; and

using the motor controller, ~~modulating, at the motor controller,~~ power supplied to [[a]] the pump motor in response to the command so as to operate [[a]] the pump to disperse the amount of the one or more chemical fluids.

4. (Original) The method of claim 3, wherein the motor controller is configured to respond to one type of the second communication protocol.

5. (Original) The method of claim 1, wherein the one or more operational parameters comprise at least one of the following:

a fluidic pressure in the hydrocarbon transmission system;

a fluidic flow rate in the hydrocarbon transmission system;

a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;

an operational parameter of the motor;

a controller temperature;

a battery voltage;

a motor current;

a solar cell charge current; and

one or more fault conditions.

6. (Original) The method of claim 1, further comprising:

wirelessly transmitting a signal representative of the one or more operational parameters from the one or more sensor devices to the one or more chemical injection systems.

7. (Original) The method of claim 1, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;
- a demulsifier;
- an ethanol; and
- a foamer.

8. (Canceled)

9. (Canceled)

10. (Original) The method of claim 1, wherein the hydrocarbon pipeline is configured to connect in fluid communication with one or more hydrocarbon production sites.

11. (Withdrawn) A system for monitoring operation of a hydrocarbon pipeline, said system comprising:

a monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of hydrocarbon stream disposed in a hydrocarbon pipeline; and

one or more chemical injection systems in fluid communication with the hydrocarbon stream, the one or more chemical injection systems comprising a chemical reservoir containing a chemical fluid adapted to treat the hydrocarbon stream and configured to account for relative

distances between the one or more chemical injection systems and the monitoring module, thereby providing a substantially uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

12. (Withdrawn) The system of claim 11, further comprising a transceiver communicably coupled to the control center through a communications network, the transceiver in wireless communication with the chemical injection system.

13. (Withdrawn – Previously presented) The system of claim 12, further comprising one or more communication stations in wireless communication with the chemical injection system and the transceiver, each communication station adapted to relay operational parameters of the chemical injection system in the form of wireless signals between the transceiver and the chemical injection system.

14. (Withdrawn – Previously presented) The system of claim 11, further comprising a controller in communication with the monitoring module, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

15. (Withdrawn – Previously presented) A system, comprising:

a monitoring module comprising one or more sensor devices configured to detect one or more operational parameters of a hydrocarbon stream;

a controller in communication with the monitoring module; and

a chemical injection system in communication with the monitoring module and the controller, the chemical injection system configured to disperse a chemical fluid into a pipeline to treat the hydrocarbon stream disposed therein,

wherein the controller comprises a processor configured to account for relative distances between the chemical injection system and the monitoring module, and

wherein the controller is configured to generate a command that instructs the chemical injection system to regulate an amount of chemical fluid in response to the one or more operational parameters and the relative distance to disperse a substantially uniformly consistent quantity of the chemical fluid into the pipeline to treat the hydrocarbon stream.

16. (Withdrawn – Previously presented) The system of claim 15, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

17. (Withdrawn – Previously presented) The system of claim 16, wherein the chemical injection system comprises a motor controller coupled with the controller, a motor coupled with the motor controller, and a pump configured to disperse the chemical fluid, and wherein the motor controller is configured to supply power to the motor in response to the command to operate a pump to disperse the amount of the one or more chemical fluids.

18. (Withdrawn – Previously presented) The system of claim 17, wherein the motor controller is configured to respond to one type of the second communication protocol.

19. (Withdrawn – Previously presented) The system of claim 15, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;
- a demulsifier;
- an ethanol; and
- a foamer.

20. (Withdrawn – Previously presented) The system of claim 15, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
- an operational parameter of the motor;
- a controller temperature;
- a battery voltage;
- a motor current;
- a solar cell charge current; and
- one or more fault conditions.

21. (New) The method of claim 1, further comprising:

injecting more of the one or more chemical fluids via a first chemical injection system than via a second chemical injection system in response to a first distance between the first

chemical injection system and the monitoring module that is larger than a second distance between the second chemical injection system and the monitoring module.

22. (New) The method of claim 1, further comprising:

using the controller, performing a two-way protocol translation to generate the second signal from the first signals.

REMARKS

Applicants submit this paper in response to the Non-Final Office Action dated May 25, 2016 ("Office Action"). The Office rejects claims 1-8 and 10.

In this Reply, Applicants cancel claims 2, 8, and 9. Applicants also amend claims 1 and 3. Applicants further add new claims 21 and 22. Thus, upon entry of this reply, claims 1-7, 10, 21, and 22 will be under examination in the present application, with claim 1 written in independent form.

Applicants believe these Remarks are fully responsive to the rejections and/or objections in the Office Action. Neither the new claims nor the amendments add new subject matter. Claims or subject matter cancelled is done so without prejudice or disclaimer and, moreover, Applicants reserve all right to pursue such cancelled claim or subject matter in divisional or continuation applications. Applicants further believe all claims pending upon entry of this Reply are patentable over the art of record.

Reconsideration of the pending Application in view of the following remarks is respectfully requested.

REJECTIONS

The Office rejects claims 1-8 and 10 variously under 35 U.S.C. §112, §102, and §103. Applicants discuss the subject of these rejections below. Where applicable, Applicants propose amendments to the claims to clarify the elements and not for reasons related solely to patentability.

Rejection under U.S.C. §112

The Office rejects claims 1-3 and 8 as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. See, e.g., the Office Action at page 5. Applicants submit that the subject of this rejection is moot as relates to cancelled claims 2 and 8. Applicants also note that claims 1 and 3, as amended, recite elements

for “using a controller” and “using a motor controller,” respectively. Applicants believe these elements clarify the scope of the claims.

Withdrawal of the 112 rejections and favorable consideration are respectfully requested.

Rejection under 35 U.S.C. §102

The Office also rejects claims 1-8 and 10 under 35 U.S.C. §102(e), alleging that the claims are anticipated by U.S. Patent Application Publication No. 2009/0095351 filed by Greening et al. (“Greening”). The amendments obviate these rejections. As noted more below, Greening’s device does not read on elements for consolidating and exchanging signals in different communication protocols.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference” (emphasis added). See, e.g., MPEP 2131 citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). In fact, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Greening does not anticipate any of the pending claims, as amended, because Greening does not disclose all of the elements found in amended independent claim 1. For example, Greening simply does not disclose any device or system that performs the steps now described by the elements of claim 1 for,

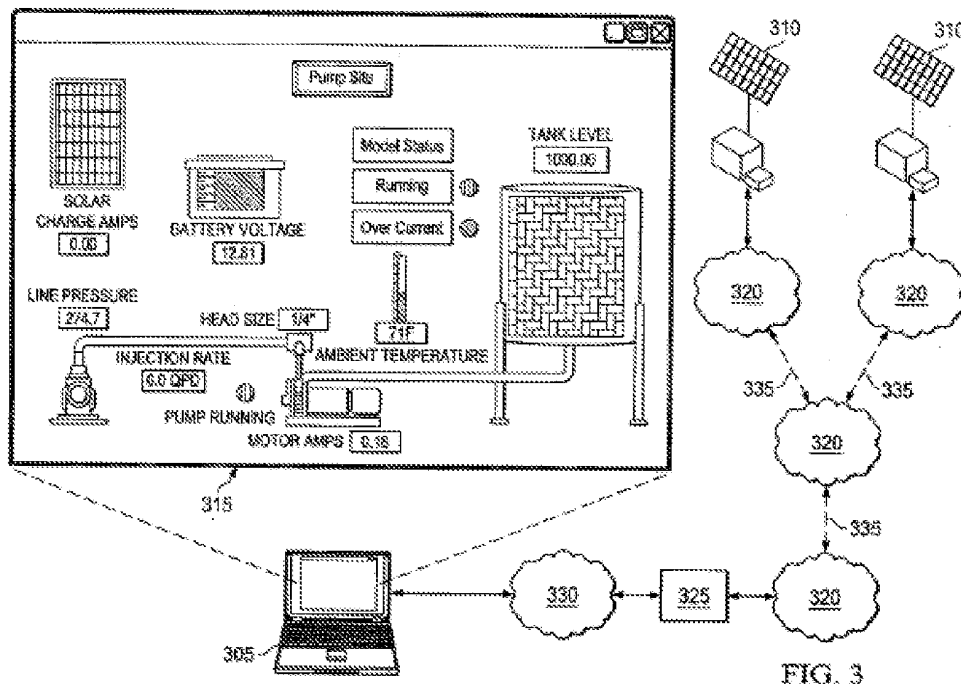
consolidating first signals from the pair of chemical injection systems at a first communication station, the signals in a first communication protocol and a second communication protocol that is different from the first communication protocol;

using the first communication station, exchanging a second signal with a second communication station; and

using a controller remote from the pair of chemical injection system, processing the second signal from the second communication station to account for a relative distance between the pair of chemical injection system and the

monitoring module so as to adapt the amount of the one or more chemical fluids in accordance with the relative distance for the pair of chemical injection system by operating a pump motor, via the first signals and the second signal, to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

These elements find support in the claim 2, now cancelled, and the pending application. See, e.g., U.S. Patent Application Publication No. 20150105909 (“the ‘909 publication”). With reference to FIG. 3 below, “[i]n some embodiments, the controller is communicably coupled (e.g., wirelessly, via wired communication, or a combination thereof) to one or more communication stations 320. For example, in some embodiments, data may be transmitted between the communication station 320 and the chemical injection system 310 via a particular communication protocol (e.g., RS-232, RS-485 (Modbus or EIA-485), RS-422 (or EIA-422), TCP/IP, Fieldbus, DeviceNet, and Profibus, to name but a few) and over a certain communication form (e.g., cellular, RF, satellite, or other type of communication form). One or more additional communication stations 320 may be interposed between the communication station in direct communication with the chemical injection system 310 and a base transceiver 325. For example, the communication stations 320 may be radio frequency (RF) transceivers that are operable to send and receive RF signals 335 representative of data and/or commands between the chemical injection systems 310 and the base transceiver 325.” See the ‘909 publication at paragraph [0060].



The Office broadly asserts that Greening's communication system 150 operates to read on the first and second communication protocols found in the pending claims. See, e.g., the Office Action at pages 7 and 8. But nothing in Greening either explicitly or implicitly contemplates at least the elements discussed above. He at best describes a few discrete examples. In one example, he considers that "IRDA protocol provides wireless data transferring capabilities to allow uploads of data from memory." See *Id.* He also suggests that "[s]ystems 252 and data communications capabilities may allow external control of controller 220, and thereby the additive system as a whole, and/or may allow data collected by the controller to be sent to offsite systems. Systems 252 and data communication capabilities may further allow receipt or acquiring data of relevance to the pipeline additive system such as data relating to weather conditions and/or forecasts such as including data from a remote weather station 253." See Greening at FIGS. 2 and 3 and paragraph [0037]. But neither of these examples *explicitly* read on the elements identified above from the pending claims.

Nor does Greening's relatively broad discussion provide any evidence tending to show that he *implicitly* contemplates other non-disclosed configurations for his communication system

150. Greening's discussion at best contemplates a genus of systems that "supports analog or digital communications including any or all communication protocols of CANBUS, IRDA, RS485, etc." See Greening at paragraph [0030]. But "[a] prior art reference that discloses a genus still does not inherently disclose all species within that broad category." *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1367, 71 USPQ2d 1081, 1091 (Fed. Cir. 2004); see also MPEP § 2112.¹ As noted above, he opts to elaborate on only discrete configurations for his communication system 150; namely, that the communication system 150 (1) requires a single, specific communication protocol (e.g., IRDA) and (2) communicates with a specific system (e.g., remote weather station).² Without additional details, Applicants contend that there is no reason to interpret Greening's communication system 150 in any way to include other uses or applications. It follows then that there is no disclosure that would reasonably instruct skilled artisans to consider systems with steps for "consolidating first signals from the pair of chemical injection systems at a first communication station, the signals in a first communication protocol and a second communication protocol that is different from the first communication protocol; using the first communication station, exchanging a second signal with a second communication station; and using a controller remote from the pair of chemical injection system, processing the second signal from the second communication station to account for a relative distance between the pair of chemical injection system and the monitoring module so as to adapt the amount of the one or more chemical fluids in accordance with the relative distance for the pair of chemical injection system by operating a pump motor, via the first signals and the second signal, to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline" as found in the pending claims.

For at least these reasons, independent claim 1 is not anticipated, nor rendered obvious, and is believed to be allowable over Greening. Claims 2-8, and 10, which depend from amended independent claim 1, are likewise believed to be allowable at least by virtue of their respective dependencies on an allowable base claim, as well as for their added features.

¹ See MPEP § 2112 (IV) citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990), which states that "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art."

² The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. See, e.g., MPEP § 2112 (IV) citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

Withdrawal of the 102 rejection and favorable consideration are therefore respectfully requested.

Rejection under 35 U.S.C. §103

The Office also rejects the claims under 35 U.S.C. §103(a), alleging that the claims are unpatentable over Greening. The amendments also obviate these rejections. Applicants note that “[w]hether the rejection is based on ‘inherency’ under 35 U.S.C. 102, on ‘*prima facie* obviousness’ under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same.” *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977). In the instant case, Greening fails to describe any system that reads on the elements the elements noted above. This deficiency frustrates the underlying *prima facie* case of obviousness because the cited reference fails to read on all of the elements of independent claim 1, as amended.

Withdrawal of the 103 rejections and favorable consideration are therefore respectfully requested.

Patentability of New Claims

Applicants add new claims 21 and 22. Support for these claims may be found at least in paragraph [0055] of the ‘909 publication. For the reasons set out above, Applicants believe these claims are allowable at least by virtue of its respective dependency on an allowable base claim, as well as for their added features.

Favorable consideration is therefore respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully submit that all issues the Examiner raises have been addressed, and that the application is in condition for allowance. A timely allowance is earnestly solicited for at least claims 1, 3-7, 10, and 21.

This paper constitutes Applicants' earnest attempt to place this case in condition for allowance. Applicants reserve all rights and arguments with respect to all other limitations and distinctions not expressly noted above. To the extent that any claim amendments Applicants present herein constitute a narrowing of the scope of claimed subject matter, such narrowing should not be construed as admitting the merits of any of the claim rejections. That is, the Office should not construe anything in this paper as Applicants' intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the amended claim prior to amendment.

Moreover, the absence of a reply to any specific rejection, issue, or comment does not signify Applicants' agreement with or concession to that rejection, issue, or comment. Applicants' failure (if at all) to expressly address any particular statement or argument by the Examiner should not be construed as an admission or acquiescence that such statement or argument is accurate or proper. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that Applicants have not expressed herein.

If the Examiner believes that a telephone conference with the Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Respectfully submitted,

PAUL FRANK + COLLINS P.C.

/Michael J. Wasco/

Michael J. Wasco
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One Church Street
P.O. Box 1307

Application No. 14/579,141
Reply to Non-Final Office Action of May 25, 2016

Burlington, VT 05402-1307
802.860.4121

Customer No.: 125443

Dated: 23 August 2016

Electronic Acknowledgement Receipt	
EFS ID:	26721117
Application Number:	14579141
International Application Number:	
Confirmation Number:	7440
Title of Invention:	CHEMICAL INJECTION SYSTEM
First Named Inventor/Applicant Name:	Francisco M. Gutierrez
Customer Number:	125443
Filer:	Michael J. Wasco
Filer Authorized By:	
Attorney Docket Number:	255763; 11705.05602
Receipt Date:	23-AUG-2016
Filing Date:	22-DEC-2014
Time Stamp:	13:52:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	01Transmittal.pdf	186254	no	2
			d2be9f083ab6dcd72b76a4b8898c08c0ef688dd2		
Warnings:					

Information:					
2	Amendment/Req. Reconsideration-After Non-Final Reject	02Reply.pdf	156459	no	16
			89c912c27b04cc54c9e91e3fc3eecbb6f79d1025		
Warnings:					
Information:					
Total Files Size (in bytes):			342713		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	14/579, 141 - conf # 7440	
	Filing Date	December 22, 2014	
	First Named Inventor	Francisco M. Gutierrez	
	Art Unit	1798	
	Examiner Name	Brian R. Gordon	
Total Number of Pages in This Submission	17	Attorney Docket Number	255763; 11705.05602

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☒ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☐ Other Enclosure(s) (please identify below):
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	PAUL FRANK + COLLINS P.C.		
Signature	/Michael J. Wasco/		
Printed name	Michael J. Wasco		
Date	23 August 2016	Reg. No.	58,919

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name		Date	

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/579,141	Filing Date 12/22/2014	☐ To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED (Column 1)	NUMBER EXTRA (Column 2)	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	08/23/2016	CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0	

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
		CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							

LIE
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* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440
125443	7590	09/21/2016	EXAMINER	
Paul, Frank & Collins/GE			GORDON, BRIAN R	
One Church Street			ART UNIT	PAPER NUMBER
P.O. Box 1307			1798	
Burlington, VT 05402			MAIL DATE	DELIVERY MODE
			09/21/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/579,141	Applicant(s) GUTIERREZ ET AL.	
	Examiner BRIAN R. GORDON	Art Unit 1798	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 8-23-16.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1,3-7 and 10-22 is/are pending in the application.
 5a) Of the above claim(s) 9 and 11-20 is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1,3-7,10,21 and 22 is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☒ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some** c) ☐ None of the:

 1. ☐ Certified copies of the priority documents have been received.

 2. ☐ Certified copies of the priority documents have been received in Application No. ____.

 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
 Paper No(s)/Mail Date ____.

3) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. ____.

4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed August 23, 2016 have been fully considered but they are not persuasive.

The language of the amendments is confusing and not consistent with the specification. Therefore, the claims are subjected to 112 issues.

Applicant asserts that the amendments of claim 1 are supported in cancelled claim 2 and paragraph [0060]. The examiner disagrees.

Claim 2 previously provided for:

“receiving, at a controller, data from the one or more sensor devices in a first communication protocol;
processing the data at the controller; and
generating, at the controller, a command in a second communication protocol that is different from the first communication protocol, wherein the command instructs the one or more chemical injection systems to regulate the amount of the one or more chemical fluids”.

It is noted that claims did not previously require a pair of chemical injection systems as presently claimed. Furthermore, claim 2 did not mention anything about consolidating first signals from the pair of chemical injections systems at a first

communication station and that the first signals are in different, first and second communication protocols as presently claimed. Furthermore, paragraph [0060] does not disclose such as well.

It is noted that the publication states at paragraph [0061] states: "The base transceiver 325 receives and/or consolidates data received from the chemical injection systems 310 via the communication stations 320. The base transceiver 325 may also receive and/or consolidate commands to the chemical injection systems 310 from the computer 305 (or other computing device)." As such, consolidation of any data occurs at the base transceiver 325 (not provided for in the claim) and not the communication station 320 as claimed.

Furthermore, it is unclear what is meant by the phrase "first signals from the pair of chemical injection systems". It is unclear how many signals are included in "first signals" and how many actual first signals are required to be communicated from each of the chemical injection systems. It is presumed that at a minimum each chemical injection systems provide for at least one first signal.

However, regardless of how many first signals are communicated from each of the chemical injection systems, there is nothing in claim 2 nor paragraph [0060] that discloses a single signal or signals from a chemical injection system is communicated in two different protocols to anywhere or any structure, including a communication station as claimed. It is unclear how a first signal can be communicated in two different protocols as claimed. If applicant intends for the a signal to be transmitted in a first communication protocol from a first one of the pair of chemical injection systems, and a

respective signal to be transmitted in a second communication protocol from the second/other one of the pair of chemical injection systems, wherein the second communication protocol is different from the first communication protocol; then the claim should be amended to clear reflect such.

As disclosed throughout the publication, a translator/translation module is employed to covert a signal in a first particular protocol to a second protocol. See for example paragraphs 0006, 18, 22, 27, 50-51, etc.

Furthermore, it is noted that canceled claim 2 nor paragraph 0060 disclose the using step as claimed requiring a first communication station to "exchange" a second protocol with a second communication. It is further unclear what is meant by "exchanging". It is unclear if this means the first communication transmits a second signal to a second station and the second station in return/exchange transmits a second signal (or something else) to the first communication station. Clarification is required.

Furthermore, the examiner fails to locate support for the last step of claim which is directed to a single, the second signal from the second communication to account for a relative distance between the pair of chemical injection systems. It is noted that the pair of chemical injection systems are at different locations from each other and different relative positions from the other structures including the monitoring module 225. Therefore, there is no single relative distance for the pair; and no single second signal as claimed. For reasons stated above the claims are directed to new matter and the scope of the claims are not enabled by the specification. If applicant disagrees, it is

hereby requested that applicant specify where in the specification the claims are fully supported and enabled.

As to the art rejection, applicant asserts: “[w]ithout additional details, Applicants contend that there is no reason to interpret Greening's communication system 150 in any way to include other uses or applications. It follows then that there is no disclosure that would reasonably instruct skilled artisans to consider systems with steps for "consolidating first signals from the pair of chemical injection systems at a first communication station, the signals in a first communication protocol and a second communication protocol that is different from the first communication protocol; using the first communication station, exchanging a second signal with a second communication station; and using a controller remote from the pair of chemical injection system, processing the second signal from the second communication station to account for a relative distance between the pair of chemical injection system and the monitoring module so as to adapt the amount of the one or more chemical fluids in accordance with the relative distance for the pair of chemical injection system by operating a pump motor, via the first signals and the second signal, to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline" as found in the pending claims.”

The examiner disagrees.

The Applicant is advised that the Supreme Court recently clarified that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the Supreme Court explained that, “[w]hen there is a

design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. Furthermore, the simple substitution of one known element for another is likely to be obvious when predictable results are achieved. See *KSR Int’l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

Applicant did not invent any novel and non-obvious network communication protocols. Communicating (sending, receiving, translating, consolidating, processing data) over a network including various devices through different known protocols was known at the time of the invention.

It would have been well within the common sense, predictable, and technical knowledge of one of ordinary skill in the art at the time of the invention to recognize that not only data may be transmitted over a network in different protocols, but such data could be processed and consolidated as already conventionally known in the art from the vast number known networks.

Claim Interpretations

2. It is noted that the term “or more” is directed to alternatives not requirements. Therefore, for example in claim 1, it is only required that the monitoring module comprise one sensor and only one chemical fluid be injected. It is noted that the monitoring module is only defined as one sensor that can detect one operational parameter.... Therefore, a sensor is a monitoring module. It is further noted that the term, “fluid” is a liquid or a gas.
3. It is further noted that claim 1 does not positively require any actual distance to exist between a chemical injection system and the monitoring module nor does the claim provide for any specific distance value. Therefore, the claim does not preclude from there being no distance between the elements. Thus, the value of such distance would be zero and no need to “account” for any such distance.
4. There is no clear nexus between the steps of 3 and 6 as to that determine where the steps occur relative to that of claim 1 and or how the further steps of the dependent claims are related to those of claim 1.
5. As to claim 10, it is noted that one or more hydrocarbon production sites are not claimed as an element of any structure employed in any of the active steps, nor defined by any specific structure. However, such a “site” could be some, broad, arbitrary location. The claim states a further possible use of the hydrocarbon pipeline.

Claim Rejections - 35 USC § 112

6. The following is a quotation of 35 U.S.C. 112(b):

Art Unit: 1798

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 3-4, 6 and 21 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claim 1 is rejected for the reasons stated above. See Response to Arguments.

Furthermore, it is unclear what is the relationship of the "a second signal" recited in the "exchanging" steps and any of the previously claimed steps. There is no indication that a second signal was every generated or transmitted by a sensor, chemical injection system, etc. It is unclear what is the relationship of the a second signal to the first signals and how such second signal somehow ends up related to a relative distance as claimed. There is information and/or steps missing that would allow one to practice the invention as claimed.

As to claim 1, the phrase "the pair of chemical injection system" should be "the pair of chemical injection systems".

Furthermore, it is unclear what is meant by the phrase "operating a pump motor, via the first signals and the second signal". There is no indication in the claim that the first signals are ever transmitted to the controller.

Claim 3 recites the limitation "the command" in the receiving step. There is insufficient antecedent basis for this limitation in the claim. It is unclear how the claim further limits the method and how the claim relates to the prior steps of claim 1.

As to claim 3, it is unclear if the phrases "at a motor controller" are meant to reference a location of a specific structural element. The claim as drafted does not limit the motor controller to either. As such, it is unclear if the motor controller is intended to what executes the respective steps or if there is some other structure, person, etc. at the motor controller performs the respective steps of receiving and processing. A person present a motor controller can mentally "receive" and "process" a command. If applicant intends for the motor controller to perform each of the steps, the claim should clearly indicate such.

As to claim 4, it is unclear what is meant by "one type" of the second communication protocol. A single protocol is just that protocol. It is unclear what constitutes types of a single protocol. It is has not been established that there are different types of a second protocol.

Claim 6 recites the limitation "one or more chemical injection systems". There is insufficient antecedent basis for this limitation in the claim.

As to claim 21, it is unclear what is meant by the claim as a whole in view of the phrase "than via". It is unclear what is meant by the phrase. If applicant is attempting to make a comparison then the claim should clearly indicate such. Furthermore, it is unclear how the "a first/second chemical injection systems" relate to the pair of chemical

injection systems. It is unclear if they are one in same. The claim as presently drafted does not require such.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 3-7, 10, and 21-22 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention. See explanations above.

4. Claims 1, 3-7, 10, and 21-22 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, because the specification, while being enabling for a method employing a base transceiver 325 receives and consolidates data received from the chemical injection systems, does not reasonably provide enablement for a method employing communication station to consolidate first signals as claimed. The specification does not enable any person skilled in the art to which it pertains, or

with which it is most nearly connected, to make the invention commensurate in scope with these claims. Steps of claim 1 as presently drafted are provided for in the specification. See detailed explanations above.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3-7, 10 and 21-22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Greening et al., US 2009/0095351.

Greening et al. disclose a pipeline additive injection system including: an injection pump for injecting an amount of additive (anti-corrosion agent, anti-freeze agent, de-waxing agent) into a pipeline; a battery for powering the injection pump; system sensors to monitor system conditions; and a controller for retrieving system data from the system sensors and for controlling operation of the injection pump based on the system data to achieve additive injection compensation. (Abstract; paragraphs 0005-0007).

The system comprises a pipeline 10, tank 12, a pump 14 in communication with pump motor 22, motor 22 controlled by controller 20, as by use of a relay 24 or other power regulator. Power supply 28 (power module) may for example include batteries

30, a power generator such as a solar panel 32, battery charger 34 and power output 35. Controller 20 may operate with sensors such as any or all of: a solar panel charging voltmeter 36, a battery voltage/quality indicator 37 such as an analog battery voltage meter, a pipeline pressure sensor 38 (monitoring module), a pipeline contents temperature sensor 40, a fluid level sensor 42 and a pump motor encoder 44. Controller 20 communicates with the sensors through connections 48 and wired or wireless communications 46a to 46f. As such, the controller effectively is able to determine operational data relating to any of the system conditions such as additive supply via sensor 42, power availability through voltmeter 34 and indicator 36, pipeline contents conditions such as flow pressure and temperature via sensors 38 and 40 and motor condition such as power usage or motor drive rotation speed (motor speed, drive frequency) applicable to injected additive volume metering, as by use of encoder 44 with or without considering fluid compressibility, pipeline and additive temperature, pipeline pressure and pump efficiency. (Figures 1 and 3; paragraphs 0023-0025).

Controller 20 may further communicate with external systems through a data communications system 50 (translator) and include a central processor 164 (controller). System 50 may provide wired or wireless communications 52 for external control (i.e. remote control) of controller 20, and thereby the additive system as a whole, external data collection and/or may allow data collected by the controller to be sent to offsite systems, including a remote weather station (remote control). (paragraph 0026 and 0037).

Data communications such as data transfer and external control inputs/outputs 152 can be achieved via data communication system 150. System 150 may include any communication protocols, as desired. For example, the system may support analog or digital communications including any or all communication protocols of CANBUS, IRDA, RS485, etc. In one embodiment, for example, IRDA protocol may provide wireless (wireless signals) data transferring capabilities to allow uploads of data from memory even in a potentially hazardous environment. (transmission of commands via different communication protocols, paragraph 0030).

Figure 3, illustrates and embodiment with a plurality injection systems including a plurality of motors, pumps, and tanks including different injection fluids (anti-freeze, de-waxing, and anti-corrosion agents Based on the flow of pipeline contents, determine 395 how much anti-corrosion agent should be added. This may be simply a factor of whether or not there is a flow of pipeline contents detected at step 393 or may include a consideration of other data such as a review of pipeline contents, as from programmed information, a communication to external systems or data obtained from sensors (not shown) within the pipeline monitoring for the presence of corrosive chemicals. In one embodiment, the volume of anti-corrosion agent injected to the pipeline, as may be determined by the frequency or duration at which pump 214c is driven, may be dependent on the rate of flow of pipeline contents. (paragraph 0046).

The controller may analyse pipeline pressure conditions to decide whether a pressure build up or flow blockage is occurring. This analysis may be based on a

comparison against historic flow data or programmed expected flow information.

(paragraph 0047).

The controller can proceed with a pump routine to achieve all injections.

(paragraph 0050).

Greening et al. does not disclose refer to the elements by the same terms of the claims. For example, the offsite systems are not referenced as a remote control center. However, it would have been inherent if not obvious to recognize such systems which may include a weather station that may be referenced as a remote computer/computing/control center.

The injection system of Greening is not classified as a hydrocarbon system. However, it obvious if inherently known that pipelines are employed for transporting hydrocarbons (crude oil, gas, fuel, etc.). The term pipeline is conventional known by definition in the art as a long tubular conduit or series of pipes, often underground, that may include pumps and valves for flow control, used to materials such as transport crude oil (hydrocarbons), natural gas (hydrocarbons), petroleum (hydrocarbon), fuel (hydrocarbon) etc., especially over great distances.

The Applicant is advised that the Supreme Court recently clarified that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the Supreme Court explained that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness

determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. Furthermore, the simple substitution of one known element for another is likely to be obvious when predictable results are achieved. See *KSR Int'l v. Teleflex Inc.*, 127 Sup. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007) (see MPEP § 2143).

As to accounting for a relative distance between a monitoring module (sensor) and chemical injection system, it is noted that Greening does disclose that various sensors for determining different parameters, conditions (in which such distance would be directly or indirectly accounted for) are employed for monitoring the pipeline and injecting additives in response to such monitoring. (see paragraphs 0012-13).

Accounting for such distance (and various other factors), would have been inherent, and if not inherent well within the common sense and routine skill of one of ordinary skill in the art at the time of the invention.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nunally; Patrick O'Neal and Sabata; Ashok et al. disclose pipeline monitoring systems and methods.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN R. GORDON whose telephone number is (571)272-1258. The examiner can normally be reached on M-F, 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN R. GORDON/
Primary Examiner, Art Unit 1798

Notice of References Cited

Application/Control No.

14/579,141

Applicant(s)/Patent Under
Reexamination
GUTIERREZ ET AL.

Examiner

BRIAN R. GORDON

Art Unit

1798

Page 1 of 2

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-8,076,928 B2	12-2011	Nunally; Patrick O'Neal	F17D5/00	324/220
*	B	US-7,526,944 B2	05-2009	Sabata; Ashok	G01N17/00	702/113
	C	US-				
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	E	US-				
	F	US-				
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	I	US-				
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	K	US-				
	L	US-				
	M	US-				

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	V	Oil and Gas Online; Pipeline Monitoring System, http://www.oilandgasonline.com/doc/pipeline-monitoring-system-0001 ; 1996-2016
	W	Jawhar, Imad; A Routing Protocol and Addressing Scheme for Oil, Gas, and Water Pipeline Monitoring Using Wireless Sensor Networks; 2008
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20160915

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Application/Control No.

14/579,141

Applicant(s)/Patent Under
Reexamination
GUTIERREZ ET AL.

Examiner

BRIAN R. GORDON

Art Unit

1798

Page 2 of 2

U.S. PATENT DOCUMENTS

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	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

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	P					
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	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 14579141	Applicant(s)/Patent Under Reexamination GUTIERREZ ET AL.
	Examiner BRIAN R GORDON	Art Unit 1798

CPC- SEARCHED		
Symbol	Date	Examiner
F17D 3/01, 3/12, 3/18; G05D 11/138	5/16/2016	BG
F17D 3/145	9/16/2016	BG

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
consulted prior application 12/794,898; 12/174,525	5/16/2016	BG
updated previous search	9/16/2016	BG

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/BRIAN R GORDON/ Primary Examiner.Art Unit 1798
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Francisco M. Gutierrez	Examiner:	Brian R. Gordon
Appl. No.:	14/579,141	Art Unit:	1798
Filed:	December 22, 2014	Confirmation No.:	7440
		Atty Docket No.:	255763; 11705.05602

Title: **CHEMICAL INJECTION SYSTEM**

VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AFTER FINAL OFFICE ACTION

Sir:

In response to the Final Office Action mailed August 21, 2016, to which a reply is due without extension by November 21, 2016, please amend and reconsider the above-identified patent application as noted herein. Applicants do not believe any fees are due.

Amendments to the Claims are reflected in the Listing of Claims that begin on page 2 of this Reply;

Amendments to the Specification begin on page 10; and

Remarks/Arguments begin on page 11 of this Reply.

LISTING OF CLAIMS

A listing of all claims and their current status in accordance with 37 C.F.R. §1.121(2) is provided below. This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended) A method, comprising:

monitoring a hydrocarbon stream in a hydrocarbon pipeline with a monitoring module in fluid communication with the hydrocarbon pipeline, the monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of the hydrocarbon stream; and

injecting an amount of one or more chemical fluids adapted to treat the hydrocarbon stream via a pair of chemical injection systems remote and spaced apart from the monitoring module and in fluid communication with the hydrocarbon pipeline;

wherein the amount of the one or more chemical fluids accounts for a relative distance as measured between the monitoring module and each of the pair of chemical injection systems by data transmission between the pair of chemical injection systems and a control station that is remote from the pair of chemical injection systems, the data defining the one or more operational parameters from the monitoring module and commands to operate a pump motor at each one of the pair of chemical injection systems,

wherein data transmission from the monitoring module to the control station occurs as follows,

~~consolidating~~ receiving, at a first communication station, first signals data defining the one or more operational parameters from the pair of chemical injection systems ~~at a first communication station, the first signals~~ in a first communication protocol ~~and a second communication protocol that is different from the first communication protocol;~~

using the first communication station, ~~exchanging~~ transmitting the data in the first communication protocol to a second signal with a second communication station; ~~and~~

receiving the data in the first communication protocol at a base transceiver via the second communication station;

using a communication network to connect the base transceiver to a computer at the control station; and

wherein using the computer ~~a controller remote from the pair of chemical injection system, processesing the data in the first communication protocol second signal from the second communication station to generate data defining the commands in a second communication protocol that causes the pump motor account for a relative distance between the pair of chemical injection system and the monitoring module so as to adapt the amount of the one or more chemical fluids in accordance with the relative distance for the pair of chemical injection system by operating a pump motor, via the first signals and the second signal, to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline,~~

wherein the first communication protocol is distinct from the second communication protocol.

2. (Canceled)

3. (Currently amended) The method of claim 1, ~~further comprising:~~

~~receiving, at a motor controller, the command;~~

~~processing the command at the motor controller; and~~

~~using the motor controller,~~ modulating power supplied to the pump motor in response to the commands so as to operate ~~the~~ a pump to disperse the amount of the one or more chemical fluids.

4. (Canceled)

5. (Original) The method of claim 1, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
- an operational parameter of the motor;
- a controller temperature;
- a battery voltage;
- a motor current;
- a solar cell charge current; and
- one or more fault conditions.

6. (Currently amended) The method of claim 1, further comprising:

wirelessly transmitting a signal representative of the one or more operational parameters from the one or more sensor devices to the ~~one or more~~ the pair of chemical injection systems.

7. (Original) The method of claim 1, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;

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a demulsifier;
an ethanol; and
a foamer.

8. (Canceled)

9. (Canceled)

10. (Original) The method of claim 1, wherein the hydrocarbon pipeline is configured to connect in fluid communication with one or more hydrocarbon production sites.

11. (Withdrawn) A system for monitoring operation of a hydrocarbon pipeline, said system comprising:

a monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of hydrocarbon stream disposed in a hydrocarbon pipeline; and

one or more chemical injection systems in fluid communication with the hydrocarbon stream, the one or more chemical injection systems comprising a chemical reservoir containing a chemical fluid adapted to treat the hydrocarbon stream and configured to account for relative distances between the one or more chemical injection systems and the monitoring module, thereby providing a substantially uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

12. (Withdrawn) The system of claim 11, further comprising a transceiver communicably coupled to the control center through a communications network, the transceiver in wireless communication with the chemical injection system.

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13. (Withdrawn – Previously presented) The system of claim 12, further comprising one or more communication stations in wireless communication with the chemical injection system and the transceiver, each communication station adapted to relay operational parameters of the chemical injection system in the form of wireless signals between the transceiver and the chemical injection system.

14. (Withdrawn – Previously presented) The system of claim 11, further comprising a controller in communication with the monitoring module, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

15. (Withdrawn – Previously presented) A system, comprising:

a monitoring module comprising one or more sensor devices configured to detect one or more operational parameters of a hydrocarbon stream;

a controller in communication with the monitoring module; and

a chemical injection system in communication with the monitoring module and the controller, the chemical injection system configured to disperse a chemical fluid into a pipeline to treat the hydrocarbon stream disposed therein,

wherein the controller comprises a processor configured to account for relative distances between the chemical injection system and the monitoring module, and

wherein the controller is configured to generate a command that instructs the chemical injection system to regulate an amount of chemical fluid in response to the one or more operational parameters and the relative distance to disperse a substantially uniformly consistent quantity of the chemical fluid into the pipeline to treat the hydrocarbon stream.

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16. (Withdrawn – Previously presented) The system of claim 15, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

17. (Withdrawn – Previously presented) The system of claim 16, wherein the chemical injection system comprises a motor controller coupled with the controller, a motor coupled with the motor controller, and a pump configured to disperse the chemical fluid, and wherein the motor controller is configured to supply power to the motor in response to the command to operate a pump to disperse the amount of the one or more chemical fluids.

18. (Withdrawn – Previously presented) The system of claim 17, wherein the motor controller is configured to respond to one type of the second communication protocol.

19. (Withdrawn – Previously presented) The system of claim 15, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;
- a demulsifier;
- an ethanol; and
- a foamer.

20. (Withdrawn – Previously presented) The system of claim 15, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
- an operational parameter of the motor;
- a controller temperature;
- a battery voltage;
- a motor current;
- a solar cell charge current; and
- one or more fault conditions.

21. (Currently amended) The method of claim 1, further comprising:

injecting more of the one or more chemical fluids ~~via~~ with a first chemical injection system of the pair of chemical injection systems rather than with ~~via~~ a second chemical injection system of the pair of chemical injection systems in response to a first distance between the first chemical injection system and the monitoring module that is larger than a second distance between the second chemical injection system and the monitoring module.

22. (Previously presented) The method of claim 1, further comprising:

using the controller, performing a two-way protocol translation to generate the second signal from the first signals.

23. (New) The method of claim 1, wherein data transmission from the computer to the pump motor occurs as follows,

receiving the data in the second communication protocol at the second communication station via the base transceiver;

using the second communication station, transmitting the data in the second communication protocol to the first communication station; and

transmitting, from the first communication station, data defining the commands from the computer to the pump motor at each of the chemical injection stations.

AMENDMENTS TO THE SPECIFICATION

A sample of replacement paragraphs with changes relative to the previous version of these paragraphs in accordance with 37 C.F.R. §1.121(b)(1)(ii) is provided below. The text of these replacement paragraphs replaces all prior versions of the correspondingly numbered paragraphs in the present application (See, e.g., MPEP 714).

[0056] In some embodiments, the computer 305 may be located at a remote monitoring station, such as the station ~~320~~ 220. Further computer 305 may be one of several computers at the remote monitoring station, where each computer 305 may monitor, receive data from, and/or generate commands transmitted to a single chemical injection system 310 or multiple chemical injection systems 310.

REMARKS

Applicants submit this paper in response to the Final Office Action dated August 21, 2016 ("Office Action"). In Applicants' last reply dated August 23, 2016, Applicants cancelled claims 2, 8, and 9, amended claims 1 and 3, and added new claims 21 and 22. The Office now rejects claims 1, 3-7, 10, 21, and 22.

In this Reply, Applicants cancel claims 4. Applicants also amend claims 1, 3, 6, and 21. Applicants further add new claim 23. Thus, upon entry of this reply, claims 1, 3, 5-7, 10, and 21-23 will be under examination in the present application, with claim 1 written in independent form.

Applicants believe these Remarks are fully responsive to the rejections and/or objections in the Office Action. Neither the new claim nor the amendments add new subject matter. Claims or subject matter cancelled is done so without prejudice or disclaimer and, moreover, Applicants reserve all right to pursue such cancelled claim or subject matter in divisional or continuation applications. Applicants further believe all claims pending upon entry of this Reply are patentable over the art of record.

Reconsideration of the pending Application in view of the following remarks is respectfully requested.

PRELIMINARY MATTERS

After Final Consideration Pilot Program 2.0

Applicants respectfully request consideration of the pending application under the After Final Consideration Program Pilot 2.0. Applicants believe the amendments proposed herein place the claims in condition for allowance and, likely, would require only limited consideration or search.

Amendments to the Specification

Applicants amend the specification at [0058] to clarify the language therein. No new matter is added.

OBJECTIONS

The Office objects to no part of the pending application or its claims.

REJECTIONS

The Office rejects the claims variously under 35 U.S.C. §112 and §102. Applicants discuss the subject of these rejections below. Where applicable, Applicants propose amendments to the claims to clarify the elements and not for reasons related solely to patentability.

Rejection under U.S.C. §112

The Office rejects claims 1, 3-7, 10, 21, and 22 as failing to comply with the written description requirement or being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. See, e.g., the Office Action at 2-11. The amendments obviate these rejections. Applicants cancel claim 4. Applicants also amend claims 3, 6, and 21 to remediate the elements as necessary to clarify the scope and content of these claims. Finally, Applicants amend claim 1 so as to recite, in pertinent part,

wherein the amount of the one or more chemical fluids accounts for a relative distance as measured between the monitoring module and each of the pair of chemical injection systems by data transmission between the pair of chemical injection systems and a control station that is remote from the pair of chemical injection systems, the data defining the one or more operational parameters from the monitoring module and commands to operate a pump motor at each one of the pair of chemical injection systems,

wherein data transmission from the monitoring module to the control station occurs as follows,

receiving, at a first communication station, data defining the one or more operational parameters from the pair of chemical injection systems in a first communication protocol;

using the first communication station, transmitting the data in the first communication protocol to a second communication station;

receiving the data in the first communication protocol at a base transceiver via the second communication station;

using a communication network to connect the base transceiver to a computer at the control station;

wherein the computer processes the data in the first communication protocol to generate data defining the commands in a second communication protocol that causes the pump motor to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline, and

wherein the first communication protocol is distinct from the second communication protocol.

These elements find support in the pending application. See, e.g., U.S. Patent Application Publication No. 20150105909 (“the ‘909 publication”). It notes, for example, that “[i]n another embodiment, a chemical injection system for a hydrocarbon transmission system includes a pumping system adapted to inject a specified amount of chemical additive into the transmission system; and a controller communicably coupled to the pumping system and adapted *to receive one or more operational parameters of the transmission system in a first communication protocol and transmit a command to the pumping system based on the one or more operational parameters, where the pumping system injects the specified amount in response to the command. The command is in a second communication protocol distinct from the first protocol*” (emphasis added). See the ‘909 publication at [0035]. Further, as discussed relative to FIG. 3, “[i]n some embodiments, the controller is communicably coupled (e.g.,

6898344_1:11705-05602

wirelessly, via wired communication, or a combination thereof) to one or more communication stations 320. For example, in some embodiments, data may be transmitted between the communication station 320 and the chemical injection system 310 via a particular communication protocol (e.g., RS-232, RS-485 (Modbus or EIA-485), RS-422 (or EIA-422), TCP/IP, Fieldbus, DeviceNet, and Profibus, to name but a few) and over a certain communication form (e.g., cellular, RF, satellite, or other type of communication form). *One or more additional communication stations 320 may be interposed between the communication station in direct communication with the chemical injection system 310 and a base transceiver 325.* For example, the communication stations 320 may be radio frequency (RF) transceivers that are operable to send and receive RF signals 335 representative of data and/or commands between the chemical injection systems 310 and the base transceiver 325” (emphasis added). *Id.* at [0060]. “In some embodiments, the data is communicated to the computer 305 via the communication stations 320, base transceiver 325, and communications network 330, where it is then processed. *The computer 305 and/or a user operating the computer 305 may then issue commands to one or more of the chemical injection systems 310.* Such commands may include a command to stop injecting chemical additive into the pipeline and/or a command to inject a specified amount of chemical additive into the pipeline” (emphasis added). *Id.* at [0063], see also [0058] as noted in the Amendments to the Specification above.

Withdrawal of the 112 rejections and favorable consideration are respectfully requested.

Rejection under 35 U.S.C. §102

The Office also rejects claims 1, 3-7, 10, 21, and 22 under 35 U.S.C. §102(e), alleging that the claims are anticipated by U.S. Patent Application Publication No. 2009/0095351 filed by Greening et al. (“Greening”). The amendments obviate these rejections. As noted more below, Greening’s device does not read on elements for consolidating and exchanging signals in different communication protocols.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference” (emphasis added). See, e.g., MPEP 2131 citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). In fact, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Greening does not anticipate any of the pending claims, as amended, because Greening does not disclose all of the elements found in amended independent claim 1. For example, Greening simply does not disclose any device or system that is configured as described by the elements of independent claim 1 noted above.

Greening’s relatively broad discussion fails to show that he *explicitly* or *implicitly* contemplates other non-disclosed configurations for his communication system 150. As the Office notes, he at best contemplates configurations that “supports analog or digital communications including any or all communication protocols of CANBUS, IRDA, RS485, etc.” See Greening at [0030]. But there is no disclosure of any system configures so that “the amount of the one or more chemical fluids accounts for a relative distance as measured between the monitoring module and each of the pair of chemical injection systems by data transmission between the pair of chemical injection systems and a control station that is remote from the pair of chemical injection systems, the data defining the one or more operational parameters from the monitoring module and commands to operate a pump motor at each one of the pair of chemical injection systems, wherein data transmission occurs as follows, receiving, at a first communication station, data defining the one or more operational parameters from the pair of chemical injection systems in a first communication protocol; using the first communication station, transmitting the data in the first communication protocol to a second communication station; receiving the data in the first communication protocol at a base transceiver via the second communication station; using a communication network to connect the base transceiver to a computer at the control station; wherein the computer processes the data in the first communication protocol to generate data defining the commands in a second communication protocol that causes the pump motor to provide a uniformly consistent quantity of the one or

more chemical fluids in the hydrocarbon pipeline, and wherein the first communication protocol is distinct from the second communication protocol.”

For at least these reasons, independent claim 1 is not anticipated, nor rendered obvious, and is believed to be allowable over Greening. Claims 3, 5-7, 10, 21, and 22, which depend from amended independent claim 1, are likewise believed to be allowable at least by virtue of their respective dependencies on an allowable base claim, as well as for their added features.

Withdrawal of the 102 rejection and favorable consideration are therefore respectfully requested.

Patentability of New Claims

Applicants add new claim 23. Support for these claims may be found at least in paragraph [0063] of the ‘909 publication. For the reasons set out above, Applicants believe these claims are allowable at least by virtue of its respective dependency on an allowable base claim, as well as for their added features.

Favorable consideration is therefore respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully submit that all issues the Examiner raises have been addressed, and that the application is in condition for allowance. A timely allowance is earnestly solicited for at least claims 1, 3, 5-7, 10, and 21-23.

This paper constitutes Applicants' earnest attempt to place this case in condition for allowance. Applicants reserve all rights and arguments with respect to all other limitations and distinctions not expressly noted above. To the extent that any claim amendments Applicants present herein constitute a narrowing of the scope of claimed subject matter, such narrowing should not be construed as admitting the merits of any of the claim rejections. That is, the Office should not construe anything in this paper as Applicants' intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the amended claim prior to amendment.

Moreover, the absence of a reply to any specific rejection, issue, or comment does not signify Applicants' agreement with or concession to that rejection, issue, or comment. Applicants' failure (if at all) to expressly address any particular statement or argument by the Examiner should not be construed as an admission or acquiescence that such statement or argument is accurate or proper. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that Applicants have not expressed herein.

If the Examiner believes that a telephone conference with the Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Respectfully submitted,

PAUL FRANK + COLLINS P.C.

/Michael J. Wasco/

Michael J. Wasco
Reg. No.: 58,919
One Church Street

6898344_1:11705-05602

Application No. 14/579,141
Reply to Final Office Action of August 21, 2016

P.O. Box 1307
Burlington, VT 05402-1307
802.860.4121

Customer No.: 125443

Dated: 21 November 2016

6898344_1:11705-05602

18 of 18

CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0		
Practitioner Docket No.:	Application No.:	Filing Date:
255763; 11705.05602	14/579,141 - conf #7440	December 22, 2014
First Named Inventor:	Title:	
Francisco M. Gutierrez	CHEMICAL INJECTION SYSTEM	
APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116. - The above-identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) [a continuing application (e.g., a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)], or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c). - The above-identified application contains an outstanding final rejection. - Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect. - This certification and request for consideration under AFCP 2.0 is the only AFCP 2.0 certification and request filed in response to the outstanding final rejection. - Applicant is willing and available to participate in any interview requested by the examiner concerning the present response. - This certification and request is being filed electronically using the Office's electronic filing system (EFS-Web). - Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCP 2.0.] - By filing this certification and request, applicant acknowledges the following: - Reissue applications and reexamination proceedings are not eligible to participate in AFCP 2.0. - The examiner will verify that the AFCP 2.0 submission is compliant, i.e., that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions: - The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., by mailing an advisory action. - If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview. - The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate. - If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116.		
Signature	Date	
/Michael J Wasco/	21 November 2016	
Name (Print/Typed)	Practitioner Registration No.	
Michael J. Wasco	58,919	
Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.		
☐ * Total of _____ forms are submitted.		

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt	
EFS ID:	27572762
Application Number:	14579141
International Application Number:	
Confirmation Number:	7440
Title of Invention:	CHEMICAL INJECTION SYSTEM
First Named Inventor/Applicant Name:	Francisco M. Gutierrez
Customer Number:	125443
Filer:	Michael J. Wasco
Filer Authorized By:	
Attorney Docket Number:	255763; 11705.05602
Receipt Date:	21-NOV-2016
Filing Date:	22-DEC-2014
Time Stamp:	14:53:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	01Transmittal.pdf	187435	no	2
			765bec559504cb28732fdef944d66965b88f4862		
Warnings:					

Information:					
2	Response After Final Action	02Reply.pdf	147696	no	18
			10bc82d7aa0d47e751c1d3f0e0690e3cf5ed2c5a		
Warnings:					
Information:					
3	After Final Consideration Program Request	03PTOSB434.pdf	203725	no	2
			53d659a28c28f8c4be91a19333e60ce85181bctc		
Warnings:					
Information:					
Total Files Size (in bytes):			538856		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	14/579,141 - conf #7440	
	Filing Date	December 22, 2014	
	First Named Inventor	Francisco M. Gutierrez	
	Art Unit	1798	
	Examiner Name	Brian R. Gordon	
Total Number of Pages in This Submission	22	Attorney Docket Number	255763; 11705.05602

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☒ Amendment/Reply ☒ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): PTO/SB/434 (2 pages)
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	PAUL FRANK + COLLINS P.C.		
Signature	/Michael J. Wasco/		
Printed name	Michael J. Wasco		
Date	21 November 2016	Reg. No.	58,919

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/579,141	Filing Date 12/22/2014	☐ To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED (Column 1)	NUMBER EXTRA (Column 2)	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	11/21/2016	CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0	

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
		CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							

LIE
KAREN WASHINGTON

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440
125443	7590	12/01/2016	EXAMINER	
Paul, Frank & Collins/GE			GORDON, BRIAN R	
One Church Street			ART UNIT	PAPER NUMBER
P.O. Box 1307			1798	
Burlington, VT 05402			MAIL DATE	DELIVERY MODE
			12/01/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 14/579,141	Applicant(s) GUTIERREZ ET AL.	
	Examiner BRIAN R. GORDON	Art Unit 1798	AIA (First Inventor to File) Status No

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 21 November 2016 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☒ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:

a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires _____ months from the mailing date of the prior *Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT'S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because

a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);

b) ☐ They raise the issue of new matter (see NOTE below);

c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): (a) ☒ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.

13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

14. ☐ Other: _____.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: 1, 3-7, 10-22.

Claim(s) withdrawn from consideration: _____

	/BRIAN R. GORDON/ Primary Examiner, Art Unit 1798
--	--

Continuation of 3. NOTE: Claim 1 has been extensively amended to incorporate new structural and method limitations not previously required, considered, and searched. The scope of the claims as now amended would require further searching/consideration beyond the allotted time.

AFCP 2.0 Decision

Application No.

14/579,141

Applicant(s)

GUTIERREZ ET AL.

Examiner

BRIAN R. GORDON

Art Unit

1798

This is in response to the After Final Consideration Pilot request filed 11-21-16.

1. **Improper Request** – The AFCP 2.0 request is improper for the following reason(s) and the after final amendment submitted with the request will be treated under pre-pilot procedure.

- ☐ An AFCP 2.0 request form PTO/SB/434 (or equivalent document) was not submitted.
- ☐ A non-broadening amendment to at least one independent claim was not submitted.
- ☐ A proper AFCP 2.0 request was submitted in response to the most recent final rejection.
- ☐ Other:

2. **Proper Request**

- A. After final amendment submitted with the request will not be treated under AFCP 2.0.

The after final amendment cannot be reviewed and a search conducted within the guidelines of the pilot program.

- ☒ The after final amendment will be treated under pre-pilot procedure.

- B. Updated search and/or completed additional consideration.

The examiner performed an updated search and/or completed additional consideration of the after final amendment within the time authorized for the pilot program. The result(s) of the updated search and/or completed additional consideration are:

- ☐ 1. All of the rejections in the most recent final Office action are overcome and a Notice of Allowance is issued herewith.
- ☐ 2. The after final amendment would not overcome all of the rejections in the most recent final Office action. See attached interview summary for further details.
- ☐ 3. The after final amendment was reviewed, and it raises a new issue(s). See attached interview summary for further details.
- ☐ 4. The after final amendment raises new issues, but would overcome all of the rejections in the most recent final Office action. A decision on determining allowability could not be made within the guidelines of the pilot. See attached interview summary for further details, including any newly discovered prior art.
- ☐ 5. Other:

Examiner Note: Please attach an interview summary when necessary as described above.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Francisco M. Gutierrez	Examiner:	Brian R. Gordon
Appl. No.:	14/579,141	Art Unit:	1798
Filed:	December 22, 2014	Confirmation No.:	7440
		Atty Docket No.:	255763; 11705.05602

Title: **CHEMICAL INJECTION SYSTEM**

VIA EFS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

DO NOT ENTER: /B.R.G./

11/29/2016

DO NOT ENTER: /B.R.G./

11/29/2016

AMENDMENT AFTER FINAL OFFICE ACTION

Sir:

In response to the Final Office Action mailed August 21, 2016, to which a reply is due without extension by November 21, 2016, please amend and reconsider the above-identified patent application as noted herein. Applicants do not believe any fees are due.

Amendments to the Claims are reflected in the Listing of Claims that begin on page 2 of this Reply;

Amendments to the Specification begin on page 10; and

Remarks/Arguments begin on page 11 of this Reply.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Request for Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	14/579,141 - conf#7440
Filing Date	December 22, 2014
First Named Inventor	Francisco M. Gutierrez
Art Unit	1798
Examiner Name	Brian R. Gordon
Attorney Docket Number	255763; 11705.05602

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO on page 2.)

1. **Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

ii. ☐ Other _____

b. ☒ Enclosed

i. ☒ Amendment/Reply

iii. ☐ Information Disclosure Statement (IDS)

ii. ☐ Affidavit(s)/ Declaration(s)

iv. ☐ Other _____

2. Miscellaneous

a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

b. ☐ Other _____

3. Fees

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to

a. ☐ Deposit Account No. _____

i. ☒ RCE fee required under 37 CFR 1.17(e)

ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)

iii. ☐ Other _____

b. ☐ Check in the amount of \$ _____ enclosed

c. ☒ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	/Michael J Wasco/	Date	21 December 2016
Name (Print/Type)	Michael J. Wasco	Registration No.	58,919

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature

Name (Print/Type)

Date

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Instruction Sheet for RCEs

(not to be submitted to the USPTO)

NOTES:

An RCE is not a new application, and filing an RCE will not result in an application being accorded a new filing date.

Filing Qualifications:

The application must be a utility or plant application filed on or after June 8, 1995. The application cannot be a provisional application, a utility or plant application filed before June 8, 1995, an international application that does not comply with the requirements of 35 U.S.C. 371, a design application, or a patent under reexamination. See 37 CFR 1.114(e). An international application does not comply with the requirements of 35 U.S.C. 371 until the requirements under 35 U.S.C. 371(c), including the requirement for the inventor's oath or declaration under 35 U.S.C. 371(c)(4), have been complied with.

Filing Requirements:

Prosecution in the application must be closed. Prosecution is closed if the application is under appeal, or the last Office action is a final action, a notice of allowance, or an action that otherwise closes prosecution in the application (e.g., an Office action under *Ex parte Quayle*). See 37 CFR 1.114(b).

A submission and a fee are required at the time the RCE is filed. If reply to an Office action under 35 U.S.C. 132 is outstanding (e.g., the application is under final rejection), the submission must meet the reply requirements of 37 CFR 1.111. If there is no outstanding Office action, the submission can be an information disclosure statement, an amendment, new arguments, or new evidence. See 37 CFR 1.114(c). The submission may be a previously filed amendment (e.g., an amendment after final rejection).

WARNINGS:

Request for Suspension of Action:

All RCE filing requirements must be met before suspension of action is granted. A request for a suspension of action under 37 C FR 1.103(c) does not satisfy the submission requirement and does not permit the filing of the required submission to be suspended.

Improper RCE will NOT toll Any Time Period:

Before Appeal - If the RCE is improper (e.g., prosecution in the application is not closed or the submission or fee has not been filed) and the application is not under appeal, the time period set forth in the last Office action will continue to run and the application will be abandoned after the statutory time period has expired if a reply to the Office action is not timely filed. No additional time will be given to correct the improper RCE.

Under Appeal - If the RCE is improper (e.g., the submission or the fee has not been filed) and the application is under appeal, the improper RCE is effective to withdraw the appeal. Withdrawal of the appeal results in the allowance or abandonment of the application depending on the status of the claims. If there are no allowed claims, the application is abandoned. If there is at least one allowed claim, the application will be passed to issue on the allowed claim(s). See MPEP 1215.01.

See MPEP 706.07(h) for further information on the RCE practice.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	14/579,141 - conf #7440	
	Filing Date	December 22, 2014	
	First Named Inventor	Francisco M. Gutierrez	
	Art Unit	1798	
	Examiner Name	Brian R. Gordon	
Total Number of Pages in This Submission	27	Attorney Docket Number	255763; 11705.05602

ENCLOSURES (Check all that apply)		
☒ Fee Transmittal Form ☐ Fee Attached ☒ Amendment/Reply ☒ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): PTO/SB/30 (2 pages)
Remarks		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	PAUL FRANK + COLLINS P.C.	
Signature	/Michael J. Wasco/	
Printed name	Michael J. Wasco	
Date	21 December 2016	Reg. No. 58,919

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:		14579141		
Filing Date:		22-Dec-2014		
Title of Invention:		CHEMICAL INJECTION SYSTEM		
First Named Inventor/Applicant Name:		Francisco M. Gutierrez		
Filer:		Michael J. Wasco		
Attorney Docket Number:		255763; 11705.05602		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
RCE- 1st Request	1801	1	1200	1200
Total in USD (\$)				1200

Electronic Acknowledgement Receipt

EFS ID:	27869085
Application Number:	14579141
International Application Number:	
Confirmation Number:	7440
Title of Invention:	CHEMICAL INJECTION SYSTEM
First Named Inventor/Applicant Name:	Francisco M. Gutierrez
Customer Number:	125443
Filer:	Michael J. Wasco
Filer Authorized By:	
Attorney Docket Number:	255763; 11705.05602
Receipt Date:	21-DEC-2016
Filing Date:	22-DEC-2014
Time Stamp:	16:54:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$1200
RAM confirmation Number	122216INTEFSW16552700
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	02Fee.pdf	223019	no	2
			1c760af02e265d72cfb1f66ecd179a89bb0a83be		
Warnings:					
Information:					
2	Response After Final Action	03Reply.pdf	149365	no	18
			6eb0af2156cd2df4f68dc8f5957d9d4223d2f0db		
Warnings:					
Information:					
3	Request for Continued Examination (RCE)	04RCE.pdf	140945	no	3
			e9c44e04b35b38d7b63ef2b465bf631523dc1d7a		
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
4	Transmittal Letter	01Transmittal.pdf	187019	no	2
			b9893de2baadc3119d529ba4e33cf14dc6be0203		
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30411	no	2
			269f090b7a1ff1ed9f054885e97f3595a05628f0		
Warnings:					
Information:					
Total Files Size (in bytes):			730759		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

FEE TRANSMITTAL		Complete if known	
		Application Number	14/579,141 - conf#7440
		Filing Date	December 22, 2014
☐ Applicant asserts small entity status. See 37 CFR 1.27.		First Named Inventor	Francisco M. Gutierrez
☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.		Examiner Name	Brian R. Gordon
		Art Unit	1798
TOTAL AMOUNT OF PAYMENT	(\$ 1200	Practitioner Docket No.	255763; 11705.05602

METHOD OF PAYMENT (check all that apply)
☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☐ Deposit Account Deposit Account Number: _____ Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**
☐ Charge any additional fee(s) or underpayment of fee(s) ☐ Credit any overpayment of fee(s) under 37 CFR 1.16 and 1.17

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES** (U = undiscounted fee; S = small entity fee; M = micro entity fee)

Application Type	FILING FEES			SEARCH FEES			EXAMINATION FEES			Fees Paid (\$)
	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	
Utility	280	140*	70	600	300	150	720	360	180	
Design	180	90	45	120	60	30	460	230	115	
Plant	180	90	45	380	190	95	580	290	145	
Reissue	280	140	70	600	300	150	2,160	1,080	540	
Provisional	260	130	65	0	0	0	0	0	0	

* The \$140 small entity status filing fee for a utility application is further reduced to \$70 for a small entity status applicant who files the application via EFS-Web.

2. EXCESS CLAIM FEES

Fee Description	Undiscounted Fee (\$)	Small Entity Fee (\$)	Micro Entity Fee (\$)
Each claim over 20 (including Reissues)	80	40	20
Each independent claim over 3 (including Reissues)	420	210	105
Multiple dependent claims	780	390	195

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims	Fee (\$)	Fee Paid (\$)
_____ - 20 or HP = _____ x _____ = _____						
HP = highest number of total claims paid for, if greater than 20.						
Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)			
_____ - 3 or HP = _____ x _____ = _____						
HP = highest number of independent claims paid for, if greater than 3.						

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$400 (\$200 for small entity) (\$100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
_____ - 100 = _____ / 50 = _____ (round up to a whole number) x _____ = _____				

4. OTHER FEE(S)

Non-English specification, \$130 fee (no small or micro entity discount)

Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, \$400 fee (\$200 small or micro entity)

Other (e.g., late filing surcharge): Request for continued examination (RCE)

1200

SUBMITTED BY			
Signature	/Michael J Wasco/	Registration No. (Attorney/Agent)	58,919
Name (Print/Type)	Michael J. Wasco	Telephone	802.860.4121
		Date	21 December 2016

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Francisco M. Gutierrez	Examiner:	Brian R. Gordon
Appl. No.:	14/579,141	Art Unit:	1798
Filed:	December 22, 2014	Confirmation No.:	7440
		Atty Docket No.:	255763; 11705.05602

Title: **CHEMICAL INJECTION SYSTEM**

VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**REQUEST FOR CONTINUED EXAMINATION (RCE) AND
AMENDMENT AFTER FINAL OFFICE ACTION**

Sir:

In response to the Final Office Action mailed September 21, 2016, and the Advisory Action mailed on December 1, 2016, to which a reply is due without extension by December 21, 2016, Applicant elects to file a Request for Continued Examination (RCE) to continue prosecution of the above-identified case. This RCE and Amendment and Reply to the Final Office Action is Applicants' submission pursuant to 37 C.F.R. § 1.114. Applicants include payment of \$1,200.00 as payment of fees for this 1st RCE. No other fees are believed due with this Reply.

Please amend and reconsider the above-identified patent application as noted herein.

Amendments to the Claims are reflected in the Listing of Claims that begin on page 2 of this Reply;

Amendments to the Specification begin on page 10; and

Remarks/Arguments begin on page 11 of this Reply.

LISTING OF CLAIMS

A listing of all claims and their current status in accordance with 37 C.F.R. §1.121(2) is provided below. This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended) A method, comprising:

monitoring a hydrocarbon stream in a hydrocarbon pipeline with a monitoring module in fluid communication with the hydrocarbon pipeline, the monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of the hydrocarbon stream; and

injecting an amount of one or more chemical fluids adapted to treat the hydrocarbon stream via a pair of chemical injection systems remote and spaced apart from the monitoring module and in fluid communication with the hydrocarbon pipeline;

wherein the amount of the one or more chemical fluids accounts for a relative distance as measured between the monitoring module and each of the pair of chemical injection systems by data transmission between the pair of chemical injection systems and a control station that is remote from the pair of chemical injection systems, the data defining the one or more operational parameters from the monitoring module and commands to operate a pump motor at each one of the pair of chemical injection systems,

wherein data transmission from the monitoring module to the control station occurs as follows,

~~consolidating~~ receiving, at a first communication station, first signals data defining the one or more operational parameters from the pair of chemical injection systems ~~at a first communication station, the first signals~~ in a first communication protocol ~~and a second communication protocol that is different from the first communication protocol;~~

using the first communication station, ~~exchanging~~ transmitting the data in the first communication protocol to a second signal with a second communication station; and

receiving the data in the first communication protocol at a base transceiver via the second communication station;

using a communication network to connect the base transceiver to a computer at the control station; and

wherein using the computer ~~a controller remote from the pair of chemical injection system, processesing the data in the first communication protocol second signal from the second communication station to generate data defining the commands in a second communication protocol that causes the pump motor account for a relative distance between the pair of chemical injection system and the monitoring module so as to adapt the amount of the one or more chemical fluids in accordance with the relative distance for the pair of chemical injection system by operating a pump motor, via the first signals and the second signal, to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline,~~

wherein the first communication protocol is distinct from the second communication protocol.

2. (Canceled)

3. (Currently amended) The method of claim 1, ~~further comprising:~~

~~receiving, at a motor controller, the command;~~

~~processing the command at the motor controller; and~~

~~using the motor controller,~~ modulating power supplied to the pump motor in response to the commands so as to operate ~~the~~ a pump to disperse the amount of the one or more chemical fluids.

4. (Canceled)

5. (Original) The method of claim 1, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
- an operational parameter of the motor;
- a controller temperature;
- a battery voltage;
- a motor current;
- a solar cell charge current; and
- one or more fault conditions.

6. (Currently amended) The method of claim 1, further comprising:

wirelessly transmitting a signal representative of the one or more operational parameters from the one or more sensor devices to the ~~one or more~~ the pair of chemical injection systems.

7. (Original) The method of claim 1, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;

6919019_1:11705-05602

a demulsifier;
an ethanol; and
a foamer.

8. (Canceled)

9. (Canceled)

10. (Original) The method of claim 1, wherein the hydrocarbon pipeline is configured to connect in fluid communication with one or more hydrocarbon production sites.

11. (Withdrawn) A system for monitoring operation of a hydrocarbon pipeline, said system comprising:

a monitoring module comprising one or more sensor devices operable to detect one or more operational parameters of hydrocarbon stream disposed in a hydrocarbon pipeline; and

one or more chemical injection systems in fluid communication with the hydrocarbon stream, the one or more chemical injection systems comprising a chemical reservoir containing a chemical fluid adapted to treat the hydrocarbon stream and configured to account for relative distances between the one or more chemical injection systems and the monitoring module, thereby providing a substantially uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline.

12. (Withdrawn) The system of claim 11, further comprising a transceiver communicably coupled to the control center through a communications network, the transceiver in wireless communication with the chemical injection system.

6919019_1:11705-05602

13. (Withdrawn – Previously presented) The system of claim 12, further comprising one or more communication stations in wireless communication with the chemical injection system and the transceiver, each communication station adapted to relay operational parameters of the chemical injection system in the form of wireless signals between the transceiver and the chemical injection system.

14. (Withdrawn – Previously presented) The system of claim 11, further comprising a controller in communication with the monitoring module, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

15. (Withdrawn – Previously presented) A system, comprising:

a monitoring module comprising one or more sensor devices configured to detect one or more operational parameters of a hydrocarbon stream;

a controller in communication with the monitoring module; and

a chemical injection system in communication with the monitoring module and the controller, the chemical injection system configured to disperse a chemical fluid into a pipeline to treat the hydrocarbon stream disposed therein,

wherein the controller comprises a processor configured to account for relative distances between the chemical injection system and the monitoring module, and

wherein the controller is configured to generate a command that instructs the chemical injection system to regulate an amount of chemical fluid in response to the one or more operational parameters and the relative distance to disperse a substantially uniformly consistent quantity of the chemical fluid into the pipeline to treat the hydrocarbon stream.

6919019_1:11705-05602

16. (Withdrawn – Previously presented) The system of claim 15, wherein the controller is configured to receive data in a first communication protocol and transmit data in a second communication protocol that is different from the first communication protocol, wherein the data in the first communication protocol includes data that defines the one or more operational parameters, and wherein the data in the second communication protocol includes data that defines the command.

17. (Withdrawn – Previously presented) The system of claim 16, wherein the chemical injection system comprises a motor controller coupled with the controller, a motor coupled with the motor controller, and a pump configured to disperse the chemical fluid, and wherein the motor controller is configured to supply power to the motor in response to the command to operate a pump to disperse the amount of the one or more chemical fluids.

18. (Withdrawn – Previously presented) The system of claim 17, wherein the motor controller is configured to respond to one type of the second communication protocol.

19. (Withdrawn – Previously presented) The system of claim 15, wherein the one or more chemical fluids comprise at least one of:

- a corrosion inhibitor;
- a paraffin inhibitor;
- a demulsifier;
- an ethanol; and
- a foamer.

20. (Withdrawn – Previously presented) The system of claim 15, wherein the one or more operational parameters comprise at least one of the following:

- a fluidic pressure in the hydrocarbon transmission system;
- a fluidic flow rate in the hydrocarbon transmission system;
- a percentage concentration by weight or volume of the chemical fluid in the hydrocarbon transmission system;
- an operational parameter of the motor;
- a controller temperature;
- a battery voltage;
- a motor current;
- a solar cell charge current; and
- one or more fault conditions.

21. (Currently amended) The method of claim 1, further comprising:

injecting more of the one or more chemical fluids ~~via~~ with a first chemical injection system of the pair of chemical injection systems rather than with ~~via~~ a second chemical injection system of the pair of chemical injection systems in response to a first distance between the first chemical injection system and the monitoring module that is larger than a second distance between the second chemical injection system and the monitoring module.

22. (Previously presented) The method of claim 1, further comprising:

using the controller, performing a two-way protocol translation to generate the second signal from the first signals.

23. (New) The method of claim 1, wherein data transmission from the computer to the pump motor occurs as follows,

receiving the data in the second communication protocol at the second communication station via the base transceiver;

using the second communication station, transmitting the data in the second communication protocol to the first communication station; and

transmitting, from the first communication station, data defining the commands from the computer to the pump motor at each of the chemical injection stations.

AMENDMENTS TO THE SPECIFICATION

A sample of replacement paragraphs with changes relative to the previous version of these paragraphs in accordance with 37 C.F.R. §1.121(b)(1)(ii) is provided below. The text of these replacement paragraphs replaces all prior versions of the correspondingly numbered paragraphs in the present application (See, e.g., MPEP 714).

[0056] In some embodiments, the computer 305 may be located at a remote monitoring station, such as the station ~~320~~ 220. Further computer 305 may be one of several computers at the remote monitoring station, where each computer 305 may monitor, receive data from, and/or generate commands transmitted to a single chemical injection system 310 or multiple chemical injection systems 310.

REMARKS

Applicants submit this paper in response to the Final Office Action dated September 21, 2016, and the Advisory Action dated December 1, 2016 (collectively, "Office Action"). In Applicants' last reply dated August 23, 2016, Applicants cancelled claims 2, 8, and 9, amended claims 1 and 3, and added new claims 21 and 22. The Office now rejects claims 1, 3-7, 10, 21, and 22.

In this Reply, Applicants cancel claims 4. Applicants also amend claims 1, 3, 6, and 21. Applicants further add new claim 23. Thus, upon entry of this reply, claims 1, 3, 5-7, 10, and 21-23 will be under examination in the present application, with claim 1 written in independent form.

Applicants believe these Remarks are fully responsive to the rejections and/or objections in the Office Action. Neither the new claim nor the amendments add new subject matter. Claims or subject matter cancelled is done so without prejudice or disclaimer and, moreover, Applicants reserve all right to pursue such cancelled claim or subject matter in divisional or continuation applications. Applicants further believe all claims pending upon entry of this Reply are patentable over the art of record.

Reconsideration of the pending Application in view of the following remarks is respectfully requested.

PRELIMINARY MATTERS

Amendments to the Specification

Applicants amend the specification at [0058] to clarify the language therein. No new matter is added.

OBJECTIONS

The Office objects to no part of the pending application or its claims.

REJECTIONS

The Office rejects the claims variously under 35 U.S.C. §112 and §102. Applicants discuss the subject of these rejections below. Where applicable, Applicants propose amendments to the claims to clarify the elements and not for reasons related solely to patentability.

Rejection under U.S.C. §112

The Office rejects claims 1, 3-7, 10, 21, and 22 as failing to comply with the written description requirement or being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. See, e.g., the Office Action at 2-11. The amendments obviate these rejections. Applicants cancel claim 4. Applicants also amend claims 3, 6, and 21 to remediate the elements as necessary to clarify the scope and content of these claims. Finally, Applicants amend claim 1 so as to recite, in pertinent part,

wherein the amount of the one or more chemical fluids accounts for a relative distance as measured between the monitoring module and each of the pair of chemical injection systems by data transmission between the pair of chemical injection systems and a control station that is remote from the pair of chemical injection systems, the data defining the one or more operational parameters from the monitoring module and commands to operate a pump motor at each one of the pair of chemical injection systems,

wherein data transmission from the monitoring module to the control station occurs as follows,

receiving, at a first communication station, data defining the one or more operational parameters from the pair of chemical injection systems in a first communication protocol;

using the first communication station, transmitting the data in the first communication protocol to a second communication station;

6919019_1:11705-05602

receiving the data in the first communication protocol at a base transceiver via the second communication station;

using a communication network to connect the base transceiver to a computer at the control station;

wherein the computer processes the data in the first communication protocol to generate data defining the commands in a second communication protocol that causes the pump motor to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline, and

wherein the first communication protocol is distinct from the second communication protocol.

These elements find support in the pending application. See, e.g., U.S. Patent Application Publication No. 20150105909 (“the ‘909 publication”). The application notes, for example, that “[i]n another embodiment, a chemical injection system for a hydrocarbon transmission system includes a pumping system adapted to inject a specified amount of chemical additive into the transmission system; and a controller communicably coupled to the pumping system and adapted *to receive one or more operational parameters of the transmission system in a first communication protocol and transmit a command to the pumping system based on the one or more operational parameters, where the pumping system injects the specified amount in response to the command. The command is in a second communication protocol distinct from the first protocol*” (emphasis added). See the ‘909 publication at [0035]. Further, as discussed relative to FIG. 3, “[i]n some embodiments, the controller is communicably coupled (e.g., wirelessly, via wired communication, or a combination thereof) to one or more communication stations 320. For example, in some embodiments, data may be transmitted between the communication station 320 and the chemical injection system 310 via a particular communication protocol (e.g., RS-232, RS-485 (Modbus or EIA-485), RS-422 (or EIA-422), TCP/IP, Fieldbus, DeviceNet, and Profibus, to name but a few) and over a certain communication form (e.g., cellular, RF, satellite, or other type of communication form). *One or more additional communication stations 320 may be interposed between the communication station in direct communication with the chemical injection system 310 and a base*

6919019_1:11705-05602

transceiver 325. For example, the communication stations 320 may be radio frequency (RF) transceivers that are operable to send and receive RF signals 335 representative of data and/or commands between the chemical injection systems 310 and the base transceiver 325” (emphasis added). *Id.* at [0060]. “In some embodiments, the data is communicated to the computer 305 via the communication stations 320, base transceiver 325, and communications network 330, where it is then processed. *The computer 305 and/or a user operating the computer 305 may then issue commands to one or more of the chemical injection systems 310*. Such commands may include a command to stop injecting chemical additive into the pipeline and/or a command to inject a specified amount of chemical additive into the pipeline” (emphasis added). *Id.* at [0063], see also [0058] as noted in the Amendments to the Specification above.

Withdrawal of the 112 rejections and favorable consideration are respectfully requested.

Rejection under 35 U.S.C. §102

The Office also rejects claims 1, 3-7, 10, 21, and 22 under 35 U.S.C. §102(e), alleging that the claims are anticipated by U.S. Patent Application Publication No. 2009/0095351 filed by Greening et al. (“Greening”). The amendments obviate these rejections. As noted more below, Greening’s device does not read on elements for consolidating and exchanging signals in different communication protocols.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference” (emphasis added). See, e.g., MPEP 2131 citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). In fact, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Greening does not anticipate any of the pending claims, as amended, because Greening does not disclose all of the elements found in amended independent claim 1. For example, Greening simply does not disclose any device or system that is configured as described by the elements of independent claim 1 noted above.

Greening's relatively broad discussion fails to show that he *explicitly* or *implicitly* contemplates other non-disclosed configurations for his communication system 150. As the Office notes, he at best contemplates configurations that "supports analog or digital communications including any or all communication protocols of CANBUS, IRDA, RS485, etc." See Greening at [0030]. But there is no disclosure of any system configured so that "the amount of the one or more chemical fluids accounts for a relative distance as measured between the monitoring module and each of the pair of chemical injection systems by data transmission between the pair of chemical injection systems and a control station that is remote from the pair of chemical injection systems, the data defining the one or more operational parameters from the monitoring module and commands to operate a pump motor at each one of the pair of chemical injection systems, wherein data transmission occurs as follows, receiving, at a first communication station, data defining the one or more operational parameters from the pair of chemical injection systems in a first communication protocol; using the first communication station, transmitting the data in the first communication protocol to a second communication station; receiving the data in the first communication protocol at a base transceiver via the second communication station; using a communication network to connect the base transceiver to a computer at the control station; wherein the computer processes the data in the first communication protocol to generate data defining the commands in a second communication protocol that causes the pump motor to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline, and wherein the first communication protocol is distinct from the second communication protocol."

For at least these reasons, independent claim 1 is not anticipated, nor rendered obvious, and is believed to be allowable over Greening. Claims 3, 5-7, 10, 21, and 22, which depend from amended independent claim 1, are likewise believed to be allowable at least by virtue of their respective dependencies on an allowable base claim, as well as for their added features.

Withdrawal of the 102 rejection and favorable consideration are therefore respectfully requested.

Patentability of New Claims

6919019_1:11705-05602

Applicants add new claim 23. Support for this claim may be found at least in paragraph [0063] of the '909 publication. For the reasons set out above, Applicants believe these claims are allowable at least by virtue of its respective dependency on an allowable base claim, as well as for their added features.

Favorable consideration is therefore respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully submit that all issues the Examiner raises have been addressed, and that the application is in condition for allowance. A timely allowance is earnestly solicited for at least claims 1, 3, 5-7, 10, and 21-23.

This paper constitutes Applicants' earnest attempt to place this case in condition for allowance. Applicants reserve all rights and arguments with respect to all other limitations and distinctions not expressly noted above. To the extent that any claim amendments Applicants present herein constitute a narrowing of the scope of claimed subject matter, such narrowing should not be construed as admitting the merits of any of the claim rejections. That is, the Office should not construe anything in this paper as Applicants' intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the amended claim prior to amendment.

Moreover, the absence of a reply to any specific rejection, issue, or comment does not signify Applicants' agreement with or concession to that rejection, issue, or comment. Applicants' failure (if at all) to expressly address any particular statement or argument by the Examiner should not be construed as an admission or acquiescence that such statement or argument is accurate or proper. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that Applicants have not expressed herein.

If the Examiner believes that a telephone conference with the Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

Respectfully submitted,

PAUL FRANK + COLLINS P.C.

/Michael J. Wasco/

Michael J. Wasco
Reg. No.: 58,919
One Church Street

6919019_1:11705-05602

Application No. 14/579,141
Reply to Final Office Action of August 21, 2016

P.O. Box 1307
Burlington, VT 05402-1307
802.860.4121

Customer No.: 125443

Dated: 21 December 2016

6919019_1:11705-05602

18 of 18

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/579,141	Filing Date 12/22/2014	☐ To be Mailed
---	---	----------------------------------	---------------------------------------

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED (Column 1)	NUMBER EXTRA (Column 2)	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	12/21/2016	CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	X \$80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0	

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
		CLAIMS REMAINING AFTER AMENDMENT					
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							

LIE
/PAMELA V. THERATT/

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND FEE(S) DUE

125443 7590 03/20/2017
Paul Frank + Collins/GE
One Church Street
P.O. Box 1307
Burlington, VT 05402

EXAMINER	
GORDON, BRIAN R	
ART UNIT	PAPER NUMBER
1798	

DATE MAILED: 03/20/2017

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440
TITLE OF INVENTION: CHEMICAL INJECTION SYSTEM				

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	06/20/2017

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

125443 7590 03/20/2017
Paul Frank + Collins/GE
One Church Street
P.O. Box 1307
Burlington, VT 05402

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440

TITLE OF INVENTION: CHEMICAL INJECTION SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	06/20/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
GORDON, BRIAN R	1798	700-266000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440
125443	7590	03/20/2017	EXAMINER	
Paul Frank + Collins/GE			GORDON, BRIAN R	
One Church Street			ART UNIT	PAPER NUMBER
P.O. Box 1307			1798	
Burlington, VT 05402			DATE MAILED: 03/20/2017	

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/579,141	Applicant(s) GUTIERREZ ET AL.	
	Examiner BRIAN R. GORDON	Art Unit 1798	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12-21-16.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1,3,5-7,10,21 and 23. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)	
1. ☐ Notice of References Cited (PTO-892)	5. ☒ Examiner's Amendment/Comment
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	7. ☐ Other _____
4. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____	

--	--

1. The present application is being examined under the pre-AIA first to invent provisions.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an interview with Michael J. Wasco on March 6, 2017.

The application has been amended as follows:

In the claims:

Amend the next to last paragraph of claim 1 as follow:

wherein the computer, processes the data in the first communication protocol to generate data defining the commands in a second communication protocol that causes the pump motors ~~pump motor~~ to provide a uniformly consistent quantity of the one or more chemical fluids in the hydrocarbon pipeline,

3. (Currently amended) The method of claim 1, further comprising modulating power supplied to the pump motors in response to the commands so as to operate the pumps ~~a pump~~ to disperse the amount of the one or more chemical fluids.

23. (New) The method of claim 1, wherein data transmission from the computer to the pump motors occurs as follows,

receiving the data in the second communication protocol at the second communication station via the base transceiver;

using the second communication station, transmitting the data in the second communication protocol to the first communication station; and

transmitting, from the first communication station, data defining the commands from the computer to the pump motor at each of the chemical injection stations.

Cancel non-elected, withdrawn claims 11-20.

Cancel claim 22.

Allowable Subject Matter

3. Claims 1, 3, 5-7, 10, 21, and 23 are allowed.

4. The following is an examiner's statement of reasons for allowance: Applicant has amended the claims to overcome the prior 112 rejections. As noted in applicant's remarks on pages 14-15, the applied Greening reference does not teach nor fairly suggest a method as claimed requiring the specific steps as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN R. GORDON whose telephone number is (571)272-1258. The examiner can normally be reached on M-F, 1st Fri. Off.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN R. GORDON/
Primary Examiner, Art Unit 1798



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UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
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BIB DATA SHEET

CONFIRMATION NO. 7440

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
14/579,141	12/22/2014	700	1798	255763; 11705.05602		
APPLICANTS Dresser, Inc., Addison, TX; INVENTORS Francisco M. Gutierrez, Houston, TX; Richard D. Atton, Houston, TX; ** CONTINUING DATA ***** This application is a CON of 12/794,898 06/07/2010 ABN which claims benefit of 61/184,890 06/08/2009 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 01/08/2015						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /BRIAN R. GORDON/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY TX	SHEETS DRAWINGS 5	TOTAL CLAIMS 8 20	INDEPENDENT CLAIMS 1 3
ADDRESS Paul Frank + Collins/GE One Church Street P.O. Box 1307 Burlington, VT 05402 UNITED STATES						
TITLE CHEMICAL INJECTION SYSTEM						
FILING FEE RECEIVED 1600	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

Issue Classification 	Application/Control No. 14579141	Applicant(s)/Patent Under Reexamination GUTIERREZ ET AL.
	Examiner BRIAN R GORDON	Art Unit 1798

CPC					
Symbol				Type	Version
G05D	11	/	13	F	2013-01-01
E21B	33	/	068	I	2013-01-01
G05B	15	/	02	I	2013-01-01
G05D	7	/	0617	I	2013-01-01
G05D	11	/	132	I	2013-01-01
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CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE	Total Claims Allowed: 8	
(Assistant Examiner) /BRIAN R GORDON/ Primary Examiner.Art Unit 1798	(Date) 03/06/2017	O.G. Print Claim(s) 1
(Primary Examiner)	(Date)	O.G. Print Figure 3

[illegible]3

Search Notes 	Application/Control No. 14579141	Applicant(s)/Patent Under Reexamination GUTIERREZ ET AL.
	Examiner BRIAN R GORDON	Art Unit 1798

CPC- SEARCHED		
Symbol	Date	Examiner
F17D 3/01, 3/12, 3/18; G05D 11/138	5/16/2016	BG
F17D 3/145	9/16/2016	BG
G05D 11/3, 11/132, 15/02	3/6/2017	BG

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
consulted prior application 12/794,898; 12/174,525	5/16/2016	BG
updated previous search	9/16/2016	BG
Palm inventor search, updated previous search	3/6/2017	Bg

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
G05D	11/138, 15/02, 11/132	3/6/2017	BG
F17D	3/01, 3/12, 3/18, 3/145	3/6/2017	Bg

	/BRIAN R GORDON/ Primary Examiner.Art Unit 1798
--	--

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or FAX (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notification.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

125443 7590 05/20/2017
 Paul Frank + Collins/GE
 One Church Street
 P.O. Box 1307
 Burlington, VT 05402

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

Michael J. Wasco	(Depositor's name)
/Michael J Wasco/	(Signature)
19 June 2017	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	12/22/2014	Francisco M. Gutierrez	255763; 11705.05602	7440

TITLE OF INVENTION: CHEMICAL INJECTION SYSTEM

APPL. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL ISSUE DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	06/20/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
GORDON, BRIAN R	1798	700-266000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47, Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) The name of a single firm sharing as a member a registered attorney or agent and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Paul Frank + Collins P.C.

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE (CITY and STATE OR COUNTRY)

Dresser, Inc.

Addison, TX

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2018 is attached.
☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 090470 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
☐ Applicant asserting small entity status. See 37 CFR 1.27
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Michael J Wasco/

Date 19 June 2017

Typed or printed name Michael J. Wasco

Registration No. 58,919

Electronic Patent Application Fee Transmittal				
Application Number:		14579141		
Filing Date:		22-Dec-2014		
Title of Invention:		CHEMICAL INJECTION SYSTEM		
First Named Inventor/Applicant Name:		Francisco M. Gutierrez		
Filer:		Michael J. Wasco		
Attorney Docket Number:		255763; 11705.05602		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				960

Electronic Acknowledgement Receipt

EFS ID:	29534590
Application Number:	14579141
International Application Number:	
Confirmation Number:	7440
Title of Invention:	CHEMICAL INJECTION SYSTEM
First Named Inventor/Applicant Name:	Francisco M. Gutierrez
Customer Number:	125443
Filer:	Michael J. Wasco
Filer Authorized By:	
Attorney Docket Number:	255763; 11705.05602
Receipt Date:	19-JUN-2017
Filing Date:	22-DEC-2014
Time Stamp:	12:47:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$960
RAM confirmation Number	061917INTEFSW00011710090470
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	PTOL85.pdf	123285	no	1
			a37261a1a592dcf8bd91f904df2dcf0c55d28594		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30399	no	2
			b990d4a5133c86ca6ca3fe61d54805c8e943a1a0		
Warnings:					
Information:					
Total Files Size (in bytes):			153684		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/579,141	07/18/2017	9709995	255763; 11705.05602	7440

125443 7590 06/28/2017

Paul Frank + Collins/GE
One Church Street
P.O. Box 1307
Burlington, VT 05402

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 16 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Francisco M. Gutierrez, Houston, TX;
Dresser, Inc., Addison, TX;
Richard D. Atton, Houston, TX;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.