



S.S.03

05-08-2003

D27



102442384

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

Patent Docket No.: 1094-34

Form 101-1595

(Rev. 03/01)

OMB No. 0651-0027 (exp. 5/31/2002)

Tab settings ⇨ ⇨ ⇨ ▼ ▼ ▼ ▼ ▼ ▼ ▼

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

## 1. Name of conveying party(ies):

Paul E. Marchant  
Dalip S. Soni  
Leonce Castagnos

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

Name: ABB Lummus Global Inc.

Internal Address: \_\_\_\_\_

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

## 3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Street Address: 1515 Broad StreetCity: Bloomfield, State: NJ Zip: 07003Execution Date: 3/25/03Additional name(s) & address(es) attached? ☐ Yes ☒ No

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

If this document is being filed together with a new application, the execution date of the application is: 3/25/03

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Peter G. Dilworth

Internal Address: \_\_\_\_\_

Street Address: DILWORTH & BARRESE, LLP333 Earle Ovington Blvd.City: Uniondale State: New York Zip: 115536. Total number of applications and patents involved: 17. Total fee (37 CFR 3.41).....\$ \$40.00☒ Enclosed☐ Authorized to be charged to deposit account8. Deposit account number: 04-1121

(Attach duplicate copy of this page if paying by deposit account)

## DO NOT USE THIS SPACE

## 9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Adrian T. Calderone

Name of Person Signing

Signature

4/30/03

Date

Total number of pages including cover sheet, attachments, and documents: 5

05/07/2003 ECOOPER 00000069 10303452

01 FC:0021

40.00 00

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231PATENT  
REEL: 014032 FRAME: 0340

**PATENT**

For: ☒ U.S. and/or ☐ Foreign Rights  
For: ☒ U.S. Application or ☐ U.S. Patent  
By: ☒ Inventor(s) or ☐ Present Owner

**ASSIGNMENT OF INVENTION**

In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration,

ASSIGNOR: Paul E. Marchant; Dalip S. Soni, Leonce Castagnos

*(inventor(s) or  
person(s) or entity(ies)  
who own the invention)*

*(If assignment is by person or entity to whom invention was  
previously assigned and this was recorded in PTO add the  
following)*

Recorded on \_\_\_\_\_

Reel \_\_\_\_\_

Frame \_\_\_\_\_

hereby sells, assigns and transfers to

ASSIGNEE:

ABB Lummus Global Inc.  
(Type or print name of ASSIGNEE)  
1515 Broad Street  
Address  
Bloomfield, NJ 07003-3096  
USA  
Nationality

and the successors, assigns and legal representatives of the  
ASSIGNEE

*(complete one of the following)*

(Assignment of Invention [16-3] - page 1 of 3)

**PATENT**  
**REEL: 014032 FRAME: 0341**

- ☒ the entire right, title and interest
- ☐ an undivided \_\_\_\_\_ percent ( \_\_\_\_\_ %) interest for the United States and its territorial possessions

*(check the following box if foreign rights  
are also to be assigned)*

- ☒ an in all foreign countries, including all rights to claim priority, in and to any and all improvements which are disclosed in the invention entitled:

APPARATUS FOR COUNTERCURRENT CONTACTING  
OF GAS AND SOLIDS

*(check and complete (a), (b), (c) or (d))*

and which is found in

- (a) ☐ U.S. patent application executed on even date herewith
- (b) ☐ U.S. patent application executed on \_\_\_\_\_
- (c) ☒ U.S. application serial no. 10/303,452 filed on November 25, 2002
- (d) ☐ U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_

- ☐ A change of address to which correspondence is to be sent regarding patent maintenance fees is being sent separately.

*(also check (e) if foreign application(s) is also being assigned)*

- (e) ☒ and any legal equivalent thereof in a foreign country, including the right to claim priority

and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute thereof, and as to letters patent any re-issue or re-examination thereof

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment;

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or

(Assignment of Invention [16-3] - page 2 of 3)

proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, I/We have hereunto set hand and seal this \_\_\_\_\_ (Date of signing).

WARNING: Date of signing must be the same as the date of execution of the application if item (a) was checked above.

P. E. Marchant  
Paul E. Marchant

MARCH 25<sup>th</sup> 2003  
Dated

D. S. Soni  
Dalip S. Soni

March 25<sup>th</sup>, 2003  
Dated

Leonce Castagnos  
Leonce Castagnos

March 25<sup>th</sup>, 2003  
Dated

\_\_\_\_\_  
Dated

If ASSIGNOR is a legal entity complete the following information

\_\_\_\_\_  
Type or print the name of the above person  
authorized to sign on behalf of ASSIGNOR

\_\_\_\_\_  
Title

NOTE: No witnessing, notarization or legalization is necessary. If the assignment is notarized or legalized then it will only be prima facie evidence of execution 35 U.S.C. 261. Use next page if notarization is desired.

STATE OF

SS

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me personally appeared \_\_\_\_\_ to me personally known and known to me to be the person who signed the foregoing assignment and acknowledged the signing of same as his free act and deed.

\_\_\_\_\_  
Notary Public

STATE OF

SS

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me personally appeared \_\_\_\_\_ to me personally known and known to me to be the person who signed the foregoing assignment and acknowledged the signing of same as his free act and deed.

\_\_\_\_\_  
Notary Public

STATE OF

SS

COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me personally appeared \_\_\_\_\_ to me personally known and known to me to be the person who signed the foregoing assignment and acknowledged the signing of same as his free act and deed.

\_\_\_\_\_  
Notary Public