


Form PTO-1595 (Rev. 10/02) OMB No. 0651-0027 (exp. 6/30/2005) Tab settings $\Rightarrow \Rightarrow \Rightarrow$	<b>RECORDATION FORM COVER SHEET</b> <b>PATENTS ONLY</b>	U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office
To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.		
1. Name of conveying party(ies):  Thermochem Recovery International, Inc.  Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Name and address of receiving party(ies) Name: <u>Mercantile-Safe Deposit And Trust Company</u>  Internal Address: _____  _____  Street Address: <u>2 Hopkins Plaza, 5th Floor</u>  _____  City: <u>Baltimore</u> State: <u>MD</u> Zip: <u>21201</u>  Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Nature of conveyance: <input type="checkbox"/> Assignment <input type="checkbox"/> Merger <input checked="" type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____  Execution Date: <u>1/24/2003</u>	4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: _____ A. Patent Application No.(s) _____ <u>60149870 60149797</u> B. Patent No.(s) <u>5059404 5133297 5205728</u> <u>5211704 5255634 5306481 5366371 5536488</u> <u>5637192 5638609 5842289</u> <u>6149765</u> Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u>Joseph Tyssowski, Esq</u>  Internal Address: <u>Gebhardt &amp; Smith LLP</u>  _____  Street Address: <u>World Trade Center, 9th Floor</u> <u>401 East Pratt Street</u>  City: <u>Baltimore</u> State: <u>MD</u> Zip: <u>21202</u>	6. Total number of applications and patents involved: <u>14</u>  7. Total fee (37 CFR 3.41).....\$ <u>560.00</u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account  8. Deposit account number: _____	
<b>DO NOT USE THIS SPACE</b>		
9. Signature.  <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 30%;"> <u>Joseph R. S. Tyssowski, Jr., Partner</u>            Name of Person Signing         </div> <div style="width: 30%; text-align: center;">             Signature         </div> <div style="width: 30%; text-align: right;"> <u>February 3, 2003</u>            Date         </div> </div> <div style="text-align: right; margin-top: 10px;">         Total number of pages including cover sheet, attachments, and documents: <u>17</u> </div>		

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

PATENT SECURITY AGREEMENT

THIS PATENT SECURITY AGREEMENT ("AGREEMENT") is dated as of January 24, 2003 by and between THERMOCHEM RECOVERY INTERNATIONAL, INC. ("PLEDGOR"), with its mailing address at 6001 Chemical Road, Baltimore, Maryland 21226; and MERCANTILE-SAFE DEPOSIT AND TRUST COMPANY ("LENDER"), with its mailing address at 2 Hopkins Plaza, 5<sup>th</sup> Floor, Baltimore, Maryland 21201.

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

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

Section 1.1 "EVENT OF DEFAULT" shall have the meaning given to that term in the LOAN AGREEMENT.

Section 1.2 "LOAN AGREEMENT" means the Loan and Security Agreement of even date herewith by and between the PLEDGOR and the LENDER, as such agreement is hereafter amended or modified.

Section 1.3 "OBLIGATIONS" shall have the meaning given to that term in the LOAN AGREEMENT. Without limitation to the foregoing, the term "OBLIGATIONS" includes all duties of payment or performance owed by the PLEDGOR to the LENDER arising out of or related to the revolving line of credit being provided by the LENDER to the PLEDGOR under the terms of the LOAN AGREEMENT.

Section 1.4 "PATENT COLLATERAL" means all right, title and interest of the PLEDGOR, whether now owned or existing or hereafter acquired or arising, in, to, under or by virtue of: (a) the License and the Sublicense described on Exhibit A attached hereto; (b) all books and records relating to the foregoing in any form, in or on any media, including data processing materials in any form; (c) all income, royalties, damages and payments now or hereafter due or payable to the PLEDGOR under or with respect to such License and/or Sublicense, including without limitation, damages and payments for past, present or future infringements thereof; (d) all present and future claims, causes of action, and rights to sue for past, present or future infringements of such License and/or Sublicense; (e) all general intangibles, proceeds and products related to such License and/or Sublicense; and (f) all rights corresponding to such License and Sublicense throughout the world.

Section 2. Grant Of Security Interest. As security for the complete and timely payment, performance and satisfaction of all of the OBLIGATIONS, the PLEDGOR hereby mortgages, pledges, and hypothecates unto the LENDER and the LENDER'S successors and assigns, upon the following terms and conditions, and hereby grants to the LENDER and the LENDER'S successors and assigns, a security interest in and to all of the PLEDGOR'S right, title and interest in, under or by virtue of the PATENT COLLATERAL, whether now owned or existing or hereafter acquired, and in the products and proceeds thereof.

**Section 3. Rights Upon The Occurrence Of An Event Of Default.** Upon the occurrence of an EVENT OF DEFAULT, in addition to all other rights and remedies available under the LOAN AGREEMENT or under applicable law, including but not limited to the rights of a secured party under the Uniform Commercial Code in effect from time to time in Maryland, the LENDER shall have the right at any time (but shall have no obligation) to: (a) take, in its name or in the name of the PLEDGOR or otherwise, such actions as the LENDER may, at any time or from time to time, deem necessary to maintain, protect, sell, liquidate, transfer, license, assign or otherwise dispose of or realize upon the PATENT COLLATERAL, upon such terms and conditions as it may deem advisable and at such prices as it may deem best, for cash or on credit or for future delivery without assumption of any credit risk; (b) use, operate, manage, and control the PATENT COLLATERAL in any lawful manner; and (c) collect and receive all income, revenue, earnings, issues, and profits therefrom. Notice of any sale or other disposition shall be given to the PLEDGOR at least ten (10) days before the time of any intended public sale or of the time after which any intended private sale or other disposition of the COLLATERAL is to be made, which the PLEDGOR hereby agrees shall be commercially reasonable notice of such sale or other disposition. The PLEDGOR shall remain liable for any deficiency if the proceeds of any sale or other disposition of the PATENT COLLATERAL are insufficient to pay in full the OBLIGATIONS and all costs and expenses, including reasonable attorneys' fees and disbursements, paid or incurred by the LENDER in collecting any such deficiency. The PLEDGOR hereby irrevocably and unconditionally authorizes and empowers the LENDER to make, constitute and appoint any officer or agent of the LENDER as the LENDER may select, in its exclusive discretion, as the PLEDGOR'S true and lawful attorney-in-fact, with the power to endorse or sign the PLEDGOR'S name on all applications, documents, papers and instruments necessary for the LENDER or the designee of the LENDER to: (i) grant or issue any exclusive or nonexclusive licenses under the PATENT COLLATERAL to any other person; (ii) assign, license, pledge, convey or otherwise transfer title in or dispose of the PATENT COLLATERAL to any other person on such terms and conditions as the LENDER shall in its sole discretion determine; (iii) demand, sue for compromise, settle and collect and receive payment of and receipt for, any and all moneys, claims and other amounts due or to become due at any time in respect of or arising out of any of the PATENT COLLATERAL; (iv) commence and prosecute any suits, actions or proceedings at law or in equity in any court of competent jurisdiction to collect or enforce any right in respect of the PATENT COLLATERAL; and (v) do all acts and things which the LENDER deems necessary from time to time to protect, preserve or realize upon the PATENT COLLATERAL and the LENDER'S liens thereon and to effect the intent of this AGREEMENT. The PLEDGOR hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof. This power of attorney shall be irrevocable for the life of this AGREEMENT, and is intended by the PLEDGOR to be a power of attorney coupled with an interest. All of the LENDER'S rights and remedies with respect to the PATENT COLLATERAL, whether established by this AGREEMENT, by the LOAN AGREEMENT, or by law shall be cumulative and may be exercised singularly or concurrently.

**Section 4. No Duty Imposed Upon Lender.** The powers conferred upon the LENDER hereunder are solely to protect the interest of the LENDER in the PATENT COLLATERAL and shall not impose any duty upon the LENDER to exercise any such powers.

**Section 5. Costs And Expenses.** Any and all fees, costs and expenses, of whatever kind or nature, including the reasonable attorney's fees and legal expenses incurred by the LENDER in connection with the preparation of this AGREEMENT and all other documents relating hereto and the consummation of this transaction, the filing or recording of any documents (including all taxes in connection therewith) in public offices, the payment or discharge of any taxes, counsel fees, maintenance fees, encumbrances or any other fees incurred in otherwise protecting,

maintaining or preserving the PATENT COLLATERAL, or in defending or prosecuting any actions or proceedings arising out of or related to the PATENT COLLATERAL, shall be borne and paid by the PLEDGOR on demand by the LENDER and until so paid shall be added to the principal amount of the OBLIGATIONS and shall bear interest at the highest rate in effect from time to time under the "NOTE" (as that term is defined in the LOAN AGREEMENT).

**Section 6. Notices.** Notices that are required or permitted to be delivered hereunder shall be sufficient if in writing and sent to the addresses set forth in the LOAN AGREEMENT, in the manner and within the time specified in the LOAN AGREEMENT.

**Section 7. Further Assurances.** The PLEDGOR shall promptly do, make, execute and deliver all such further and additional acts, things, deeds, assurances, instruments and documents considered reasonably necessary, appropriate or proper by the LENDER to vest in, effectuate assure to the LENDER its rights under this AGREEMENT or in any of the PATENT COLLATERAL. The PLEDGOR hereby constitutes the LENDER its attorney-in-fact to execute and file all such additional instruments and documents for the foregoing purposes, all lawful acts of such attorney being hereby ratified and confirmed; such power, being coupled with an interest, is irrevocable until the OBLIGATIONS have been satisfied in full and there exists no contingent or noncontingent commitment which could give rise to any OBLIGATIONS.

**Section 8. Amendment.** The terms and conditions of this AGREEMENT may be modified, altered, waived, or amended only by a writing executed by the LENDER consenting to the modification, alteration, waiver, or amendment.

**Section 9. Choice Of Law.** This AGREEMENT shall be construed according to the laws of the State of Maryland. All parties hereto consent to the jurisdiction and venue of the courts of the State of Maryland in any action to enforce, construe or interpret this AGREEMENT.


**Section 10. Severability.** If any of the provisions of this AGREEMENT are judicially determined to be in conflict with any law of the State of Maryland or otherwise judicially determined to be unenforceable for any reason whatsoever, such provision shall be deemed null and void to the extent of such unenforceability but shall be deemed separable from and shall not invalidate any other provision of this AGREEMENT.

**Section 11. Successors And Assigns.** The terms, covenants and conditions contained in this AGREEMENT shall inure to the benefit of the LENDER and its successors and assigns, and shall be binding upon the PLEDGOR and its successors and assigns.

**Section 12. Waiver Of Jury Trial.** The PLEDGOR and the LENDER each agree that any suit, action, or proceeding, whether claim or counterclaim, brought or instituted by any party hereto or any successor or assign of any party hereto, with respect to this AGREEMENT, the LOAN AGREEMENT, or any other document or agreement which in any way relates, directly or indirectly, to this AGREEMENT, the LOAN AGREEMENT, the OBLIGATIONS or any event, transaction or occurrence arising out of or in any way connected with this AGREEMENT, the LOAN AGREEMENT, any of the OBLIGATIONS, or the dealings of the parties with respect thereto, shall be tried only by a court, and not by a jury. **THE PLEDGOR AND THE LENDER HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS TO A TRIAL BY JURY IN ANY SUCH SUIT, ACTION, OR PROCEEDING.** The PLEDGOR acknowledges and agrees that this provision is a specific and material aspect of the agreement between the parties hereto and that the LENDER would not enter into the subject transactions if this provision were not part of this AGREEMENT.

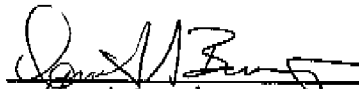
IN WITNESS WHEREOF, the PLEDGOR has executed this AGREEMENT as of the date first above written with the specific intention of creating an instrument under seal.

WITNESS/ATTEST: \_\_\_\_\_

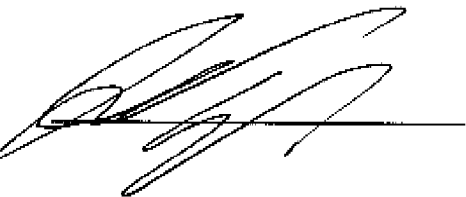


**PLEDGOR:**

THERMOCHEM RECOVERY INTERNATIONAL, INC.

Name:   
Title: President

WITNESS/ATTEST: \_\_\_\_\_



**LENDER:**

MERCANTILE-SAFE DEPOSIT AND  
TRUST COMPANY

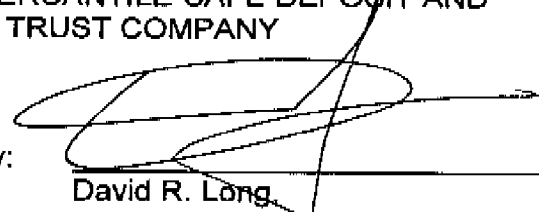
By:  (SEAL)  
David R. Long  
Senior Vice President

EXHIBIT "A"

License (International Pulp and Paper Licensing Agreement)

<i>Licensor</i>	<i>Licensee</i>	<i>Country or Territory</i>	<i>Effective Date</i>	<i>Subject Matter</i>
ThermoChem, Inc.	Grantor	Worldwide with the exception of India where the Field of Use shall exclude energy and chemical recovery from spent liquor by means of steam reforming and paper mill sludge waste gasification.	June 10, 1998	Those patents and patent applications set forth in Exhibit 1, including continuations, continuations-in-part, and divisional applications stemming therefrom and all U.S. and foreign patents which may be issued thereon, and related technology and know-how.

*Field of Use* - All applications of the Licensed Technology in pulp and paper mills, including but not limited to processing or recovery of Spent Pulping Liquor, steam reforming of bark and other biomass materials, primary and ancillary sludge, toxic waste streams including, but not limited to, dioxin laden and chlorinated hydrocarbon containing streams, fossil or other fuels; generation of steam and/or electricity; drying or concentration of spent liquor or other fluids; causticization; or other energy generation, chemical processing, environmental remediation, or other processes in pulp and paper mills. "Spent Pulping Liquor" is defined as the process stream containing both organic and inorganic material extracted from the cooking of wood, bagasse, straw and other suitable vegetation as a source of fiber for paper making. Spent Pulping Liquors include, but are not limited to, those resulting from the Kraft, Soda, Sulfite, Semi-chemical and other pulping processes and chemistries.

Sublicense (North American Pulp and Paper Licensing Agreement)

<i><b>Licensor</b></i>	<i><b>Licensee</b></i>	<i><b>Country or Territory</b></i>	<i><b>Effective Date</b></i>	<i><b>Subject Matter</b></i>
Grantor	StoneChem, Inc.	U.S. and Canada	June 10, 1998	Those patents and patent applications set forth in <u>Exhibit 2</u> , including continuations, continuations-in-part and divisional applications stemming therefrom and all U.S. and Canadian patents which may be issued thereon and related know-how in the U.S. and Canada.

*Field of Use* - All applications of the Licensed Technology in pulp and paper mills, including but not limited to processing or recovery of Spent Pulping Liquor, steam reforming of bark and other biomass materials, primary and ancillary sludge, toxic waste streams including, but not limited to, dioxin laden and chlorinated hydrocarbon containing streams, fossil or other fuels; generation of steam and/or electricity; drying or concentration of spent liquor or other fluids; causticization; or other energy generation, chemical processing, environmental remediation, or other processes in pulp and paper mills. "Spent Pulping Liquor" is defined as the process stream containing both organic and inorganic material extracted from the cooking of wood, bagasse, straw and other suitable vegetation as a source of fiber for paper making. Spent Pulping Liquors include, but are not limited to, those resulting from the Kraft, Soda, Sulfite, Semi-chemical and other pulping processes and chemistries.

**EXHIBIT 1:****LICENSED PATENTS**

<b>PATENT</b>	<b>COUNTRY</b>	<b>NUMBER</b>	<b>STATUS</b>
<b>MTCI-1</b>			
<b>Indirectly Heated Thermochemical Reactor and Apparatus (omnibus patent)</b>	<b>United States of America</b>	<b>5,059,404</b>	<b>Issued 10/22/91</b>
	<b>Austria</b>	<b>ATE105.327T1</b>	<b>Issued 5/4/94</b>
	<b>Brazil</b>	<b>9000675-5</b>	<b>Pending</b>
	<b>Canada</b>	<b>1339018</b>	<b>Issued 3/25/97</b>
	<b>Denmark</b>	<b>DK/EPO383565</b>	<b>Issued 5/4/97</b>
	<b>EPO</b>	<b>EPO383565</b>	<b>Issued 5/4/97</b>
	<b>Finland</b>	<b>94462</b>	<b>Issued 9/11/95</b>
	<b>France</b>	<b>EPO383565</b>	<b>Issued 5/4/95</b>
	<b>Germany</b>	<b>P69008572.9-08</b>	<b>Issued 5/4/95</b>
	<b>Greece</b>	<b>3012801</b>	<b>Issued 5/4/95</b>
	<b>India</b>	<b>176028</b>	<b>Issued 12/23/95</b>
	<b>Italy</b>	<b>26121BE/94</b>	<b>Issued 5/4/95</b>
	<b>Japan</b>	<b>2.680.157</b>	<b>Issued 1/12/98</b>
	<b>Kazakhstan</b>	<b>5639</b>	<b>Issued 12/15/97</b>
	<b>Mexico</b>	<b>180256</b>	<b>Issued 11/29/95</b>
	<b>Netherlands</b>	<b>EPO383565</b>	<b>Issued 5/4/95</b>
	<b>Norway</b>	<b>178100</b>	<b>Issued 1/24/96</b>
	<b>Russia</b>	<b>2073064</b>	<b>Issued 9/18/97</b>
	<b>Spain</b>	<b>EPO383565</b>	<b>Issued 5/4/95</b>
	<b>Sweden</b>	<b>EPO383565</b>	<b>Issued 5/4/95</b>
	<b>Switzerland</b>	<b>EPO383565</b>	<b>Issued 5/4/95</b>
	<b>United Kingdom</b>	<b>EPO383565</b>	<b>Issued 5/4/95</b>
	<b>Ukraine</b>	<b>93003238</b>	<b>Pending</b>



PATENT	COUNTRY	NUMBER	STATUS
MTC-1.Div.1 Indirectly Heated Thermochemical Reactor Apparatus and Method (Black Liquor)	EPO India Norway	93102400.4 735/DEL/93 95.1409	Pending Pending Pending
MTC-1.Div.1-FWC	United States of America	5,637,192	Issued 6/10/97
MTC-1.Div.2 (Steam Reformation)	United States of America India	5,306,481 736/DEL/93	Issued 4/26/94 Pending
MTC-1.Div.2cont. (General)	United States of America	5,536,488	Issued 7/16/96
MTC-1-Div.3	United States of America	6,149,765	11-21-00

Patent	COUNTRY	NUMBER	STATUS
<b>MTC-12</b>  <b>Pulsed Atmospheric Fluidized Bed Combustor Apparatus and Process</b>	United States of America Australia Austria Belgium Bulgaria Canada Czech Republic Denmark EPO France Germany Greece Hungary India Italy Japan Mexico Poland Romania Russian Federation South Korea Spain Ukraine United Kingdom	5,133,297 661692 EPO581869 EPO581869 60725 2,108,893 2,898,843 EPO581869 EPO581869 EPO581869 P69205161.9 EPO581869 P9302974 P9302974 EPO581869 04.511415/92 183125 NR169798 9301417 2413111901/54 234782 EPO581869 93002336 EPO581869	Issued 7/28/92 Issued 11/21/95 Issued 9/27/95 Issued 9/27/95 Issued 2/13/97 Issued 9/30/97 Issued 1/19/99 Issued 9/27/95 Issued 9/27/95 Issued 9/27/95 Issued 9/27/95 Issued 9/27/95 Pending Pending Issued 9/27/95 Pending Issued 10/30/96 Issued 1/30/96 Pending Issued 1/27/97 Issued 9/18/99 Issued 9/27/95 Pending Issued 9/27/95
<b>MTC-12-CIP</b>	United States of America	5,255,634	Issued 10/26/93

Patent	COUNTRY	NUMBER	STATUS
<b>MTC-13</b>  <b>Process and Apparatus for Heating Fluids Employing a Pulse Combustor</b>	<b>United States of America</b>	<b>5,211,704</b>	<b>Issued 5/18/93</b>
<b>MTC-13-EPO</b>	<b>EPO</b> <b>Austria</b> <b>Belgium</b> <b>Denmark</b> <b>France</b> <b>Great Britain</b> <b>Germany</b> <b>Greece</b> <b>Ireland</b> <b>Italy</b> <b>Spain</b>	<b>93915114.8</b>	<b>Issued 12/8/99</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b> <b>(If all fees paid)</b>

PATENT	COUNTRY	NUMBER	STATUS
MTC-14 .. Process and Apparatus for Utilizing a Pulse Combustor for Atomizing Liquids and Slurries	USA Brazil Canada Czech Republic Russian Federation EPO	5,205,728 P19206767.0 2,122,829 283728 2126114 92925167-6	Issued 4/27/93 Issued 11/25/97 Pending Issued 4/9/98 Issued 2/10/99 Abandoned 8/31/94
MTC-14-CIP  T-Burner Atomizer	  United States of America	  5,366,371	  Issued 11/22/94
MTC-25  Process and Apparatus for Drying and Heating	United States of America India Australia Brazil Canada China Czech Republic EPO Indonesia Japan Mexico New Zealand Poland Russian Federation Slovenia Turkey Ukraine	5,638,609 2474/DEL/96 705548 9611713 2237593 96199620.x PCT/US96/18193 96940781.6 P-980679 519037/1997 983763 323739 P326607 PCT/US96/18193 96940781.6 TRL199800846B 98062902	Issued 6/17/97 Pending Pending Pending Pending Pending Pending Pending Pending Pending Pending Issued 3/19/99 Pending Pending Pending Issued 12/17/98 Pending
MTC-25-DIV	United States of America	5842289	Issued 12/1/98

<b>PATENT</b>	<b>COUNTRY</b>	<b>NUMBER</b>	<b>STATUS</b>
<b>MTC-28-P</b> <b>Waste Conversion</b> <b>Process Using a Two</b> <b>Stage Steam Reformer</b>	<b>United States of America</b>		<b>Abandoned</b>
<b>MTC-38-P</b> <b>Thermoelectrical Process</b> <b>&amp; Apparatus</b>	<b>United States of America</b>	<b>60/149797</b>	<b>Pending</b>
<b>MTC-39-P</b> <b>Pulse Combustor and Gas</b> <b>Turbine Combination</b>	<b>United States of America</b>	<b>60/149870</b>	<b>Pending</b>

**EXHIBIT 2:**  
**STONECHEM LICENSED PATENTS**

<b>PATENT</b>	<b>COUNTRY</b>	<b>NUMBER (Application, Serial and/or Patent)</b>	<b>STATUS</b>
<b>MTCI-1</b>  Indirectly Heated Thermochemical Reactor and Apparatus (omnibus patent)	United States of America Canada	5,059,404 1339018	Issued 10-22-91 Issued 3-25-97
<b>MTC-1-Div.1-FWC</b>	United States of America	5,637,192	Issued 6-10-97
<b>MTC-1-Div.2</b>  <i>(Steam Reformation)</i>	United States of America	5,306,481	Issued 4-26-94
<b>MTC-1-Div.2.cont</b>  <i>(General)</i>	United States of America	5,536,488	Issued 7-16-96
<b>MTC-1-Div.3</b>	United States of America	6,149,765	11-21-00
<b>MTCI-12</b>  Pulsed Atmospheric Fluidized Bed Combustor Apparatus and Process	United States of America Canada	5,133,297 2,108,893	Issued 7-28-92 Issued 9-30-97

<b>PATENT</b>	<b>COUNTRY</b>	<b>NUMBER (Application, Serial and/or Patent)</b>	<b>STATUS</b>
<b>MTC-12-CIP</b>	United States of America	5,255,634	Issued 10-26-93
<b>MTC-13</b> Process and Apparatus for Heating Fluids Employing a Pulse Combustor	United States of America	5,211,704	Issued 5-18-93
<b>MTC-14</b> Process and Apparatus for Utilizing a Pulse Com- bustor for Atomizing Liquids and Slurries	USA Canada	5,205,728 2,122,829	Issued 4-27-93 Pending
<b>MTC-14-CIP</b> T-Burner Atomizer	United States of America	5,366,371	Issued 11-22-94
<b>MTC-25</b> Process and Apparatus for Drying and Heating	United States of America	5,638,609	Issued 6-17-97
<b>MTC-25-DIV</b>	United States of America	5,638,609	6-17-97
<b>MTC-28-P</b> Waste Conversion Process Using a Two- Stage Steam Reformer	United States of America	003943	Pending