


Form PTO-1595 (Rev. 09/04)  
OMB No. 0851-0027 (exp. 6/30/2006)

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

RECORDATION FORM COVER SHEET	
PATENTS ONLY	
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.	
<b>1. Name of conveying party(ies)/Execution Date(s):</b> Catalytica Combustion Systems, Inc.  Execution Date(s): July 30, 1997 Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>2. Name and address of receiving party(ies)</b> Name: Catalytica Energy Systems, Inc. Internal Address: Street Address:  1388 N. Tech Boulevard  City: Gilbert State: Arizona Country: United States of America Zip: 85233 Additional name(s) & address(es) attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>3. Nature of Conveyance:</b> <input type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Government Interest Assignment <input type="checkbox"/> Executive Order 9424, Confirmatory License <input checked="" type="checkbox"/> Other Correction of Assignor, previously recorded at reel/frame 015348/0650	<b>4. Application or patent number(s):</b> <input type="checkbox"/> This document is being filed together with a new application. A. Patent Application No.(s) B. Patent No.(s) 5,512,250 Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>5. Name and address to whom correspondence concerning document should be mailed:</b> Name: Charles D. Holland MORRISON & FOERSTER LLP Internal Address: Atty. Dkt.: 220772006000 Street Address: 755 Page Mill Road  City: Palo Alto State: CA Zip: 94304 Phone Number: (650) 813-5832 Fax Number: (650) 494-0792 Email Address: CHolland@mofo.com	<b>6. Total number of applications and patents involved:</b> 1  <b>7. Total fee (37 CFR 1.21(h) &amp; 3.41)</b> \$ 40.00 <input type="checkbox"/> Authorized to be charged by credit card <input checked="" type="checkbox"/> Authorized to be charged to deposit account <input type="checkbox"/> Enclosed <input type="checkbox"/> None required (government interest not affecting title)  <b>8. Payment Information</b> a. Credit Card Last 4 Numbers Expiration Date b. Deposit Account Number 03-1952 Authorized User Name Charles D. Holland
<b>9. Signature:</b>  Signature Charles D. Holland - 35,196 Name of Person Signing November 16, 2004 Date Total number of pages including cover sheet, attachments, and documents: 38	

CH \$40.00 03-1952 5512250

RECOR

07-30-1997

U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office

Attorney Docket No: 5001

To the Commissioner of Patents and



100463433

ments or copy thereof.

1. Name of conveying party(ies): **MPD 7-30-97**  
Catalytica, Inc., a Delaware Corporation

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

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

Name: Catalytica Combustion Systems, Inc.

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

Street Address: 430 Ferguson Drive

City: Mountain View State: CA

ZIP: 94043-5272

Additional name(s) & address(es) attached? ☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment

☐ Merger

☐ Security Agreement

☐ Change of Name

☐ Other:

Execution Date: July 25, 1997

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)

08/668,615; 08/507,953; 08/462,639;  
& 08/688,705

B. Patent No.(s)

5,250,489; 5,258,349; 5,248,251; 5,326,253;  
5,511,972; 5,425,632; 5,281,128; 5,259,754;  
5,405,260; 5,232,357; 5,183,401; 5,308,457;  
5,461,864; 5,512,250; 5,518, 697

Additional numbers attached? ☐ Yes ☒ No

RECEIVED  
JUL 30 1997  
ASSISTANT COMMISSIONER

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

Al A. Jecminek  
Catalytica, Inc.  
430 Ferguson Drive  
Mountain View, CA 94043-5272

6. Total number of applications and patents involved: Nineteen (19)

7. Total fee (37 CFR 3.41): \$ 760.00

☐ Enclosed

☒ Authorized to be charged to deposit account, referencing Attorney Docket No(s). 5001

☒ Commissioner is hereby authorized to charge any fees under 37 CFR 1.21 that may be required by this paper, or to credit any overpayment to Deposit Account No.03-1128

8. Deposit account number: 03-1128  
(Attach duplicate copy of this page if paying by deposit account)

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chg 760 + 90 spec  
fee

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

Al A. Jecminek

Registration No. 26,285

Al A. Jecminek  
Signature

July 29, 1997

Date

Total number of pages comprising cover sheet, attachments and document: 10

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents and Trademarks

Box Assignments  
Washington, D.C. 20231

PATENT  
REEL: 015386 FRAME: 0176

**News Release****COPY****FOR IMMEDIATE RELEASE****CONTACT:**

Jackie Cossmo  
Catalytica, Inc.  
(650) 960-3000, ext. 6204

**CATALYTICA UNVEILS CATALYTICA ENERGY SYSTEMS AS NEW NAME  
FOR SPIN-OFF COMPANY**

MOUNTAIN VIEW, CA (October 18, 2000) — Catalytica, Inc. (Nasdaq: CTAL) announced today a new name, Catalytica Energy Systems, Inc., for its spin-off company formed through the combination of two Catalytica subsidiaries, Catalytica Combustion Systems and Catalytica Advanced Technologies. The new name reflects a broadened focus on products and services for the energy industry beyond the company's first product, Xonon™ Cool Combustion, a technology that essentially prevents pollution in gas turbine power production. The spin-off company is expected to be launched later this year as a new public entity.

Catalytica, Inc. ([www.Catalytica-inc.com](http://www.Catalytica-inc.com)) finds new pathways to improve processes —reducing time, waste, and costs. On August 2, 2000, Catalytica announced that a U.S. subsidiary of DSM, a Netherlands based chemical company, will acquire Catalytica's pharmaceuticals business through the purchase of Catalytica, Inc. Concurrent with this transaction Catalytica will spin-off its Catalytica Combustion Systems and Catalytica Advanced Technologies businesses as a single new public entity to Catalytica stockholders. As a result, Catalytica will operate as a subsidiary of DSM, thereafter to be known as DSM Catalytica Pharmaceuticals, and the Catalytica Combustion Systems and Catalytica Advanced Technologies businesses will comprise a stand-alone company — Catalytica Energy Systems. Both transactions are expected to close before the end of the year.

*This press release contains "forward-looking statements" (as defined under federal securities law) regarding the spin-off and the planned merger of DSM and Catalytica. The actual events, including the ability of the companies to obtain the approval of Catalytica's stockholders, to close the spin-off and the merger transaction, may differ materially and adversely from those discussed in this press release. Factors that may cause such a difference include, without limitation, inability to obtain Catalytica stockholder approval of the transaction, failure to satisfy the closing conditions set forth in the merger agreement, potential litigation, and other risks associated with acquisitions. There can be no assurance that the spin-off and the merger will be completed on the intended schedule. Investors are encouraged to review Catalytica's Form 14-A, Form 10K for the year ending December 31, 1999, Form 10Q's for the periods ending March 31 and June 30, 2000 and Catalytica Energy Systems' Form S-1 filed with the Securities and Exchange Commission for a discussion of additional factors that could affect Catalytica's and Catalytica Energy Systems' future performance.*

####

Makers of

**Xonon**

430 Ferguson Drive  
Mountain View, CA 94043-5272

PATENT  
(650) 960-3000

REEL: 015386 FRAME: 0177  
[www.CatalyticaEnergy.com](http://www.CatalyticaEnergy.com)

COPY

State of California

SECRETARY OF STATE

NAME CHANGE  
CERTIFICATE OF QUALIFICATION

C1948427

I, BILL JONES, Secretary of State of the State of California, hereby certify:

That on the 1st day of November, 2000, there was filed in this office an Amended Statement and Designation by Foreign Corporation whereby the corporate name of CATALYTICA COMBUSTION SYSTEMS, INC., a corporation organized and existing under the laws of Delaware, was changed to CATALYTICA ENERGY SYSTEMS, INC. This corporation complied with the requirements of California law in effect on that date for the purpose of qualifying to transact intrastate business in the State of California and as of said date has been and is qualified and authorized to transact intrastate business in the State of California, subject however, to any licensing requirements otherwise imposed by the laws of this State.

IN WITNESS WHEREOF, I execute this  
certificate and affix the Great Seal  
of the State of California this day  
of November 3, 2000.



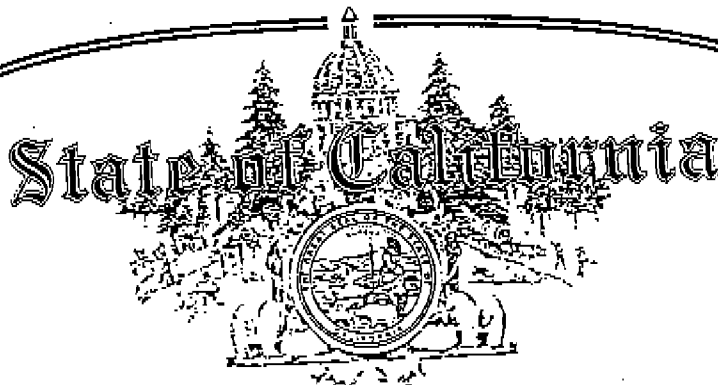
*Bill Jones*  
BILL JONES  
Secretary of State

ac

PATENT  
REEL: 015386 FRAME: 0178

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COPY



## SECRETARY OF STATE

I, *BILL JONES*, Secretary of State of the State of California, hereby certify:

That the attached transcript of 1 page(s) has been compared with the record on file in this office, of which it purports to be a copy, and that it is full, true and correct.

*IN WITNESS WHEREOF*, I execute this certificate and affix the Great Seal of the State of California this day of

NOV 04 2000



A handwritten signature in cursive script that reads 'Bill Jones'.

Secretary of State

PATENT

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A0554706

AMENDED STATEMENT BY  
FOREIGN CORPORATION OF  
CATALYTICA ENERGY SYSTEMS, INC.

ENDORSED - FILED  
In the office of the Secretary of State  
of the State of California

NOV 01 2000

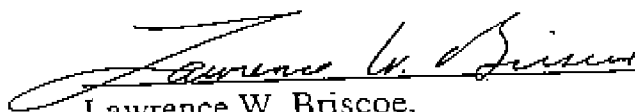
BILL JONES, Secretary of State

Catalytica Energy Systems, Inc., a corporation organized and existing under the laws of Delaware, and which is presently qualified for the transaction of intrastate business in the State of California, makes the following statement:

That the name of the corporation has been changed to that hereinabove set forth and that the name relinquished at the time of such change was Catalytica Combustion Systems, Inc.

DATED: October 23, 2000.

CATALYTICA ENERGY SYSTEMS, INC.

  
Lawrence W. Briscoe,  
Secretary



COPY

**CROSS-LICENSE AGREEMENT**

THIS AGREEMENT is made and entered into as of July \_\_, 1995 ("Effective Date") by and between Catalytica Combustion Systems, Inc. ("CCS") and Catalytica, Inc. ("Catalytica").

**RECITALS**

WHEREAS, Catalytica and CCS have entered into an Assignment and Assumption Agreement of even date hereof, wherein Catalytica has assigned to CCS ownership of certain intellectual property relating to catalysts and catalytic combustors for combustion systems;

WHEREAS, Catalytica and CCS recognize that as a result of their continuing research and business activities, each may acquire a transferrable interest in intellectual property having potential value to the other Party in its line of business, which, in the case of CCS, is the development, manufacture and commercialization of combustion systems and gas sensing or monitoring devices ("Combustion/Sensor Field") and, in the case of Catalytica, is the development, manufacture and commercialization of products and processes outside of the Combustion/Sensor Field; and

WHEREAS, Catalytica and CCS wish to facilitate the exchange of transferrable intellectual property which may have value to the other Party in its line of business and to license to that Party the rights to practice under such transferrable intellectual property as may be necessary to enable that Party to develop, manufacture and commercialize products and/or processes related to its line of business.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the Parties hereto agree as follows:

1. **Definitions**

(a) "CCS's Line of Business" means the research (including contract research for third parties), development, manufacture (including manufacture for CCS by third parties) and commercialization of (i) catalysts,

catalytic combustors, and catalytic processes for use in combustion systems for gas turbines, burners, furnaces and the like to improve combustion efficiency and/or reduce pollutants in the gaseous effluents; and (ii) gas sensor and monitoring devices, including components employed therein.

(b) "Catalytica's Line of Business" means the research, development, manufacture (including manufacture for Catalytica by third parties) and commercialization of products and/or processes outside of CCS's Line of Business.

(c) "Intellectual Property" means any and all ideas, procedures, processes, designs, inventions, discoveries, technologies, know-how, show-how, trade secrets, documents and works of authorship owned or possessed without restriction on transfer, including without limitation, any and all (i) issued United States and foreign patents, utility models and the like, applications therefor pending before any relevant authority worldwide, any patents, utility models and the like issuing from such applications, and any additions, continuations, continuations-in-part, divisions, reissues or extensions based thereon; (ii) copyrights and other rights in works of authorship; (iii) mask work rights; (iv) trade secrets; (v) rights in trademarks, trade names, service marks or other product or corporate identifications; and (vi) any other intellectual property rights, in each case, relating to, or used in connection with, CCS's Line of Business and/or Catalytica's Line of Business.

## 2. License Grants

(a) Catalytica hereby grants to CCS an irrevocable, royalty-free, exclusive worldwide license under Catalytica's Intellectual Property conceived, authored or developed after the Effective Date relating to CCS's Line of Business to make, have made, use, lease or sell products and/or processes within CCS's Line of Business. This exclusive license shall be limited in field-of-use to CCS's Line of Business but shall include unlimited rights to sublicense in that field-of-use.

(b) CCS hereby grants to Catalytica an irrevocable, royalty-free, exclusive worldwide license under CCS's Intellectual Property relating to Catalytica's Line of Business (including Intellectual Property held by CCS as of the Effective Date and Intellectual Property which is conceived, authored or

(b) If any provision of this Agreement is held invalid by any law, rule, order or regulation of any government, or by the final determination of any state or federal court, such invalidity shall not affect the enforceability of any other provision not held to be invalid, and such invalidity shall not affect the enforceability of such provision in any jurisdiction where such provision has not been held to be invalid.

(c) Neither Party shall assign this Agreement or its rights and obligations hereunder without the prior written consent of the other Party, provided, however, that this Agreement may be assigned by either Party to a purchaser of its entire business upon prior written notice to the other Party.

(d) This Agreement shall be governed by the laws of the State of California. All disputes resulting from this Agreement which cannot be settled by mutual consent of the Parties shall be subject to arbitration by the American Arbitration Association; the costs and expenses of which shall be borne by the losing Party.

(e) Paragraph headings and captions used herein are for conveniences of reference only and shall not be used in the construction or interpretation of this Agreement. This Agreement has been jointly prepared on the basis of the mutual understanding of the Parties and shall not be construed against either Party by reason of such Party's being the drafter hereof.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement to be effective as of the date first written above.

CATALYTICA COMBUSTION SYSTEMS INC.

Date 9/5/95

By Robert L. Hartley

CATALYTICA, INC.

Date 9/5/95

By Thomas W. Biscoe

developed after the Effective Date) to make, have made, use, lease or sell products and/or processes within Catalytica's Line of Business.

This exclusive license shall be limited in field-of-use to Catalytica's Line of Business but shall include unlimited rights to sublicense in that field-of-use.

### 3. Transfer of Information

To assure adequate and proper exchange of technology (technical information, data, know-how, show-how and trade secrets) within Intellectual Property, which may be relevant to the other Party's line of business, the Parties agree to meet periodically at mutually convenient times (on both formal and informal basis) to exchange such transferrable technology as one Party, in good faith, believes would be of interest to the other Party in pursuing its line of business. Further, each Party shall have a duty to bring to the attention of the other Party any technology relevant to the other Party's line of business which may come into the other Party's possession without restriction on transfer after the Effective Date hereof.

### 4. Non-Disclosure

Each Party shall use its best efforts and exercise utmost diligence to protect, guard and maintain the confidentiality of that part of the Intellectual Property which is confidential to the other Party (hereinafter "Confidential Information"). Except, as required for development, manufacture and commercialization of products or processes as set forth herein, receiving Party shall not directly or indirectly disclose or disseminate the Confidential Information to any third party without the prior written consent of the disclosing Party.

### 5. Miscellaneous

(a) This Agreement contains the entire understanding between the Parties with respect to the rendering of Services and may be modified only by a written instrument duly executed by each Party's authorized representative. If either Party shall on any occasion fail to perform any provision of this Agreement and the other Party shall not enforce that provision, the failure to enforce on that occasion shall not prevent enforcement on any other occasion.

COPY

## AMENDED AND RESTATED CROSS-LICENSE AGREEMENT

THIS AMENDED AND RESTATED CROSS-LICENSE AGREEMENT (this "Agreement") is made and entered into as of December 15, 2000 by and between Catalytica Energy Systems, Inc., formerly known as Catalytica Combustion Systems, Inc., ("CES") and Catalytica, Inc. ("Catalytica"), and amends and restates in its entirety that certain Cross-License Agreement (the "Prior Agreement"), entered into by and between the parties in July 1995 (the "Prior Effective Date").

## RECITALS

WHEREAS, Catalytica and CES have entered into an Assignment and Assumption Agreement as of the Prior Effective Date, wherein Catalytica has assigned to CES ownership of certain intellectual property relating to catalysts and catalytic combustors for combustion systems;

WHEREAS, Catalytica and CES recognize that as a result of their research and business activities prior to the date hereof, each may acquire a transferable interest in intellectual property having potential value to the other Party in its line of business, which, in the case of CES, is the development, manufacture and commercialization of combustion systems and gas sensing or monitoring devices ("Combustion/Sensor Field") and, in the case of Catalytica, is the development, manufacture and commercialization of products and processes outside of the Combustion/Sensor Field;

WHEREAS, Catalytica and CES wish to facilitate the exchange of transferable intellectual property which may have value to the other Party in its line of business and to license to that Party the rights to practice under such transferable intellectual property as may be necessary to enable that Party to develop, manufacture and commercialize products and/or processes related to its line of business;

WHEREAS, Catalytica has entered into an Agreement and Plan of Merger, dated as of August 2, 2000 (the "Merger Agreement"), with Synotex Company, Inc. and Synotex Acquisition Corporation ("Merger Sub") pursuant to which, in connection with the distribution by Catalytica of its shares of CES, Merger Sub will merge with and into Catalytica (the "Merger");

WHEREAS, Catalytica Advanced Technologies, Inc. ("CAT") and Catalytica have entered into that certain Cross-License Agreement, made and entered into as of July 1995 (the "CAT License"); and

WHEREAS, CAT has merged with and into CES (or will do so prior to the Merger).

NOW, THEREFORE, in consideration of the above premises and the mutual covenants herein contained, the Parties hereto agree to amend and restate the Prior Agreement in its entirety as follows:

## 1. Definitions.

(a) "CES's Line of Business" means the research (including contract research for third parties), development, manufacture (including manufacture for CES by third parties) and commercialization of (i) catalysts, catalytic combustors, and catalytic processes for use in combustion systems for gas turbines, burners, furnaces and the like to improve combustion efficiency and/or reduce pollutants in the gaseous effluents; (ii) gas sensor and monitoring devices, including components employed therein; and (iii) catalysts, products and processes in the petroleum, petrochemical and chemical industries, other than fine chemicals and pharmaceuticals.

(b) "Catalytica's Line of Business" means the research (including contract research for third parties), development, manufacture (including manufacture for Catalytica by third parties) and commercialization of products and/or processes related to the fine chemicals and pharmaceuticals industry.

(c) "Intellectual Property" means any and all ideas, procedures, processes, designs, inventions, discoveries, technologies, know-how, show-how, trade secrets, documents and works of authorship owned or possessed without restriction on transfer, including without limitation, any and all (i) issued United States and foreign patents, utility models and the like, applications therefor pending before any relevant authority worldwide, any patents, utility models and the like issuing from such applications, and any additions, continuations, continuations-in-part, divisions, reissues or extensions based thereon; (ii) copyrights and other rights in works of authorship; (iii) mask work rights; (iv) trade secrets; (v) rights in trademarks, trade names, service marks or other product or corporate identifications; and (vi) any other intellectual property rights, in each case, relating to, or used in connection with, CES's Line of Business and/or Catalytica's Line of Business.

## 2. License Grants.

(a) Subject to the terms and conditions of this Agreement, Catalytica hereby grants to CES a royalty-free, exclusive (with respect to Catalytica as well as to any third party) within CES's Line of Business, worldwide and irrevocable license and right to use all Intellectual Property owned by Catalytica that is related to CES's Line of Business and that is conceived, authored, developed or acquired by Catalytica at any time during the period beginning on the Prior Effective Date of this Agreement and ending on the Effective Time (as defined in the Merger Agreement) (collectively, the "Catalytica Intellectual Property"), solely for purposes of making, having made, using, leasing or selling products and/or processes within the field-of-use of CES's Line of Business, including unlimited rights to sublicense within such field-of-use (provided that (i) each sublicense shall have a field-of-use no broader than the field-of-use of the license granted hereunder to CES and terms and restrictions no less stringent and protective of Catalytica's interests than those hereof, and (ii) no sublicensee shall have any right to grant any further sublicense or any right to use the Catalytica Intellectual Property to any third party). Except for the license and right granted to CES pursuant to this Section 2(a), CES shall have no rights, title or interest in and to any of the Catalytica Intellectual Property and Catalytica shall retain all such rights, title and interest.

PATENT

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(b) Subject to the terms and conditions of this Agreement, CES hereby grants to Catalytica a royalty-free, exclusive (with respect to CES as well as to any third party) within Catalytica's Line of Business, worldwide and irrevocable license and right to use all Intellectual Property owned by CES that is related to Catalytica's Line of Business and that is conceived, authored, developed or acquired by CES and/or by CAT at any time during the period beginning on the Prior Effective Date of this Agreement and ending on the Effective Time (as defined in the Merger Agreement) (collectively, the "CES Intellectual Property"), solely for purposes of making, having made, using, leasing or selling products and/or processes within the field-of-use of Catalytica's Line of Business, including unlimited rights to sublicense within such field-of-use (provided that (i) each sublicense shall have a field-of-use no broader than the field-of-use of the license granted hereunder to Catalytica and terms and restrictions no less stringent and protective of CES's interests than those hereof, and (ii) no sublicensee shall have any right to grant any further sublicense or any right to use the CES Intellectual Property to any third party). Except for the license and right granted to Catalytica pursuant to this Section 2(b), Catalytica shall have no rights, title or interest in and to any of the CES Intellectual Property and CES shall retain all such rights, title and interest.

### 3. Transfer of Information.

Within 6 months of the Effective Time, the parties shall meet and identify the specific Catalytica Intellectual Property and CES Intellectual Property licensed hereunder. Following such meeting, the parties shall attach a list of such identified Intellectual Property as an exhibit to this Agreement.

### 4. Non-Disclosure.

Each Party shall use its best efforts and exercise utmost diligence to protect, guard and maintain the confidentiality of that part of the Intellectual Property which is confidential to the other Party (hereinafter "Confidential Information"). Except, as required for development, manufacture and commercialization of products or processes as set forth herein, receiving Party shall not directly or indirectly disclose or disseminate the Confidential Information to any third party without the prior written consent of the disclosing Party.

### 5. Termination of CAT License. The CAT License is hereby terminated.

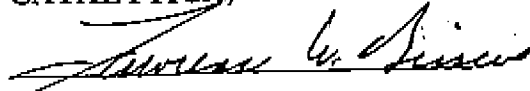
### 6. Miscellaneous

(a) This Agreement contains the entire understanding between the Parties with respect to the subject matter hereof and may be modified only by a written instrument duly executed by each Party's authorized representative. If either Party shall on any occasion fail to perform any provision of this Agreement and the other Party shall not enforce that provision, the failure to enforce on that occasion shall not prevent enforcement on any other occasion.

(b) If any provision of this Agreement is held invalid by any law, rule, order or regulation of any government or by the final determination of any state or federal court, such invalidity shall

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement to be effective as of the date first written above.

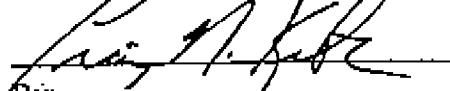
CATALYTICA, INC.

  
By:

Name: Lawrence W. Briscoe

Title: Vice President, Finance and  
Administration  
Chief Financial Officer

CATALYTICA ENERGY SYSTEMS, INC.

  
By:

Name: Craig N. Kitchen

Title: President and Chief Executive Officer

PATENT

REEL: 015386 FRAME: 0188

COPY

ASSIGNMENT AGREEMENT

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: Catalytica, Inc.  
a Delaware Corporation  
430 Ferguson Drive  
Mountain View, CA 94043-5272

hereby sells, assigns and transfers to:

ASSIGNEE: Catalytica Combustion Systems, Inc.  
a Delaware Corporation  
430 Ferguson Drive  
Mountain View, CA 94043-5272

RECEIVED  
97 JUL 30 11:54  
ASSIGNMENT

and the successors, assigns and legal representatives of the ASSIGNEE the entire right, title and interest for the United States and its territorial possessions and for all foreign countries, including all rights to claim priority, in and to any and all patents and patent applications, and the inventions described therein, which are listed in the attached; and, in and to, all Letters Patents to be obtained for said attached applications and inventions or any continuation, division, renewal, or substitute thereof; and, as to Letters Patents, any continuation, extension, reissue or reexamination thereof, effective the 25th day of July 1997;

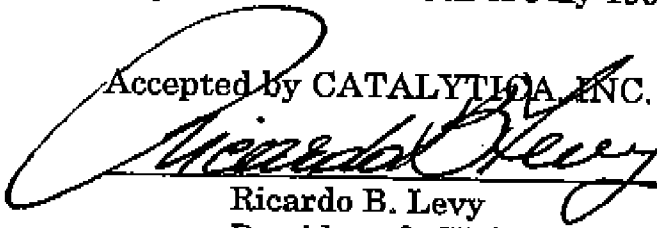
ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment;

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 Patents and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or 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 any said application, invention and

Letters Patents and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, ASSIGNOR has caused this Assignment of Patents and Patent Applications to be duly executed this 25th of July 1997.

Accepted by CATALYTICA, INC.



Ricardo B. Levy  
President & CEO

State of California


County of Santa Clara

On 7/25/97 before me, C. J. Zeman  
DateName, Title of Office - E.G., "Jane Doe, Notary Public"

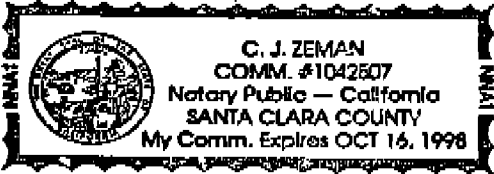
personally appeared Ricardo B. Levy  
Name(s) of Signer(s)

☒ personally know to me — OR — ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) , or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



Signature of Notary Public



## LIST OF PATENTS AND PATENT APPLICATIONS

Reference No.	Title	Patent or Patent Application No.	Inventor	Filing Date	Country
P - 1032	Graded Palladium-Containing Partial Combustion Catalyst	5,258,349	Ralph A Dalla Betta et al.	11/26/90	U.S.
P - 1032A	Graded Palladium - Containing Partial Combustion Catalyst and a Process for Using it	5,248,251	Ralph A Dalla Betta et al.	03/24/92	U.S.
P - 1033	Catalyst Structure Having Integral Heat Exchange	5,250,489	Ralph A Dalla Betta et al.	11/26/90	U.S.
P - 1033 - CA	Catalyst Structure Having Integral Heat Exchange	2,096,950	Ralph A Dalla Betta et al.	05/25/93	Canada
P - 1033 - CH	A Catalyst Structure Having Integral Heat Exchange	91111214.6	Ralph A Dalla Betta et al.	11/26/91	China
P - 1033 - EPO	A Catalyst Structure Having Integral Heat Exchange (II)	0559808	Ralph A Dalla Betta et al.	11/26/91	Europe
P - 1033 - JP	A Catalyst Structure Having Integral Heat Exchange (II)	04-502,665	Ralph A Dalla Betta et al.	05/26/93	Japan
P - 1033 - KR	A Catalyst Structure Having Integral Heat Exchange (II)	93-701,567	Ralph A Dalla Betta et al.	05/26/93	Korea
P - 1033 - RU	A Catalyst Structure Having Integral Heat Exchange (II)	2065766	Ralph A Dalla Betta et al.	11/26/91	Russian Federation
P - 1033 - TW	A Catalyst Structure Having Integral Heat Exchange	81104052	Ralph A Dalla Betta et al.	05/23/92	Taiwan
P - 1034	Partial Combustion Process and a Catalyst Structure for Use in the Process	5,326,253	Ralph A Dalla Betta et al.	11/26/90	U.S.

Reference No.	Title	Patent or Patent Application No.	Inventor	Filing Date	Country
P - 1034 - CA	Palladium Partial Combustion Catalysts and a Process for Using Them	2,096,949	Ralph A Dalla Betta et al.	05/25/93	Canada
P - 1034 - CN	Palladium Partial Combustion Catalysts and a Process for Using Them	91111207.3	Ralph A Dalla Betta et al.	05/25/93	China
P - 1034 - EPO	Palladium Partial Combustion Catalysts and a Process for Using Them	92.905,922.8	Ralph A Dalla Betta et al.	05/25/93	Europe
P - 1034 - JP	Palladium Partial Combustion Catalysts and a Process for Using Them	04-505,668	Ralph A Dalla Betta et al.	05/25/93	Japan
P - 1034 - KR	Palladium Partial Combustion Catalysts and a Process for Using Them	93-701,566	Ralph A Dalla Betta et al.	05/25/93	Republic of Korea
P - 1034 - RU	Palladium Partial Combustion Catalysts and a Process for Using Them	93.039971.04	Ralph A Dalla Betta et al.	05/25/93	Russian Federation
P - 1034 - TW	Palladium Partial Combustion Catalysts and a Process for Using Them	81104048	Ralph A Dalla Betta et al.	05/23/92	Taiwan
P - 10340	Partial Combustion Process and Catalyst Structure for Use in the Process	5,511,972	Ralph A Dalla Betta et al.	01/11/95	U.S.

Reference No.	Title	Patent or Patent Application No.	Inventor	Filing Date	Country
P - 1035 - CA	Multistage Process for Combusting Fuel Mixtures	2,096,951	Ralph A Dalla Betta et al.	11/26/91	Canada
P - 1035 - CN	Multistage Process for Combusting Fuel Mixtures	91111208.1	Ralph A Dalla Betta et al.	11/26/91	China
P - 1035 - EPO	Multistage Process for Combusting Fuel Mixtures	92.902114.5	Ralph A Dalla Betta et al.	11/26/91	Europe
P - 1035 - JP	Multistage Process for Combusting Fuel Mixtures	04-502,666	Ralph A Dalla Betta et al.	05/23/93	Korea
P - 1035 - KR	Multistage Process for Combusting Fuel Mixtures	93-701,568	Ralph A Dalla Betta et al.	11/26/91	Republic of Korea
P - 1035 - RU	Multistage Process for Combusting Fuel Mixtures	93043402.00	Ralph A Dalla Betta et al.	11/26/91	Russian Federation
P - 1035 - TW	Multistage Process for Combusting Fuel Mixtures	81104053	Ralph A Dalla Betta et al.	05/23/92	Taiwan
P - 1035N	Process for Burning Combustible Mixtures	5,425,632	Ralph A Dalla Betta et al.	07/06/93	U.S.
REF - 1036	Multistage Process for Combusting Fuel Mixtures	5,281,128	Ralph A Dalla Betta et al.	11/26/90	U.S.
REF - 1037	Partial Combustion Catalyst of Palladium on a Zirconia Support and a Process for Using It.	5,259,754	Ralph A Dalla Betta et al.	11/26/90	U.S.
REF - 1037N	Partial Combustion Catalyst of Palladium on a Zirconia Support and a Process for Using It	5,405,260	Ralph A Dalla Betta et al.	07/27/93	U.S.

Reference No.	Title	Patent or Patent Application No.	Inventor	Filing Date	Country
P - 1038	Multistage Process for Combusting Fuel Mixtures Using Oxide Catalysts in the Hot Stage	5,232,357	Ralph A Dalla Betta et al.	11/26/90	U.S.
P - 1040	Two-stage Process for Combusting Fuel Mixtures	5,183,401	Ralph A Dalla Betta et al.	11/26/90	U.S.
P - 1044	Self-Contained System for Controlling Gaseous Emissions From Dilute Organic Sources and a Process for Using that System	5,308,457	Ralph A Dalla Betta et al.	04/05/91	U.S.
P - 1065	Cooled Support Structure for a Catalyst	5,461,864	Ralph A Dalla Betta et al.	12/10/93	U.S.
P - 1065-EPO	Cooled Support Structure for a Catalyst	95906613.5	Ralph A Dalla Betta et al.	12/07/94	Europe
P - 1065-JP	Cooled Support Structure for a Catalyst	7-516847	Ralph A Dalla Betta et al.	12/07/94	Japan
P - 1065-TW	Cooled Support Structure for a Catalyst	080634	Ralph A Dalla Betta et al.	01/20/95	Taiwan
P - 1070	Catalyst Structure Employing Integral Heat Exchange	5,512,250	Ralph A Dalla Betta et al.	03/02/94	U.S.
P - 1070 - CA	Improved Catalyst Structure Employing Integral Heat Exchange	2,184,632	Ralph A Dalla Betta et al.	02/28/95	Canada
P - 1070 - CN	Improved Catalyst Structure Employing Integral Heat Exchange	95192318.8	Ralph A Dalla Betta et al.	02/28/95	China

Reference No.	Title	Patent or Patent Application No.	Inventor	Filing Date	Country
P - 1070 - EPO	Improved Catalyst Structure Employing Integral Heat Exchange	95912558.8	Ralph A Dalla Betta et al.	02/28/95	Europe
P - 1070 - JP	Improved Catalyst Structure Employing Integral Heat Exchange	7-522,921	Ralph A Dalla Betta et al.	02/28/95	Japan
P - 1070 - KR	Improved Catalyst Structure Employing Integral Heat Exchange	96-704,812	Ralph A Dalla Betta et al.	02/28/95	South Korea
P - 1070 - RU	Catalyst Structure Employing Integral Heat Exchange	96121376	Ralph A Dalla Betta et al.	02/28/95	Russian Federation
P - 1070 - TW	Improved Catalyst Structure Employing Integral Heat Exchange	84102752	Ralph A Dalla Betta et al.	03/20/94	Taiwan
P - 1070G	Process and Catalyst Structure Employing Integral Heat Exchange with Optional Downstream Flameholder	5,518,697	Ralph A Dalla Betta et al.	01/25/95	U.S.
P - 1070G-CA	Improved Catalyst Structure Employing Integral Heat Exchange With Optional Downstream Flameholder	2,184,752	Ralph A Dalla Betta et al.	09/08/95	Canada
P - 1070G-CN	Improved Catalyst Structure Employing Integral Heat Exchange With Optional Downstream Flameholder	95192518.0	Ralph A Dalla Betta et al.	09/08/95	China

PATENT  
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July 29, 1997

Reference No.	Title	Patent or Patent Application No.	Inventor	Filing Date	Country
P - 1070G-EPO	Improved Catalyst Structure Employing Integral Heat Exchange With Optional Downstream Flameholder	95911772.2	Ralph A Dalla Betta et al.	09/08/95	Europe
P - 1070G-JP	Improved Catalyst Structure Employing Integral Heat Exchange With Optional Downstream Flameholder	7-522,916	Ralph A Dalla Betta et al.	09/08/95	Japan
P - 1070G-KR	Improved Catalyst Structure Employing Integral Heat Exchange With Optional Downstream Flameholder	96704813	Ralph A Dalla Betta et al.	09/08/95	South Korea
P - 1070G-RU	Process and Catalyst Structure Employing Integral Heat Exchange with Optional Downstream Flameholder	96 121 377	Ralph A Dalla Betta et al.	09/08/95	Russian Federation
P - 1070G-TW	Improved Catalyst Structure Employing Integral Heat Exchange With Optional Downstream Flameholder	84102753	Ralph A Dalla Betta et al.	03/20/95	Taiwan
P - 1070H-PCT PATENT	Improved Combustion Process and Catalyst Structure Employing Integral Heat Exchange with Optional Downstream Flameholder for Lean Fuel/Air Mixtures	PCT/US96/01718	Ralph A Dalla Betta et al.	01/31/96	PCT

REEL: 015386 FRAME: 0196

Reference No.	Title	Patent or Patent Application No.	Inventor	Filing Date	Country
P - 1070H-TW	Improved Combustion Process and Catalyst Structure Employing Integral Heat Exchange with Optional Downstream Flameholder for Lean Fuel/Air Mixtures	86106252	Ralph A. Dalla Betta et al.	05/10/97	Taiwan
P - 1070N	Process and Catalyst Structure Employing Integral Heat Exchange with Optional Downstream Flameholder	08/668,615	Ralph A. Dalla Betta et al.	04/12/96	U.S.
P - 1073	Catalyst Support for High Temperature Applications and Catalysts and Catalytic Processes Employing Same	08/507,953	Ruiping Wang	07/27/95	U.S.
P - 1073-PCT	Catalyst Support for High Temperature Applications and Catalysts and Catalytic Processes Employing Same	PCT/US96/011795	Ruiping Wang	07/16/96	PCT
P - 1074	Support Structure for a Catalyst	08/462,639	Ralph A. Dalla Betta et al.	06/05/95	U.S.
P - 1074-PCT	Support Structure for a Catalyst	PCT/US96/09910	Ralph A. Dalla Betta et al.	06/10/96	PCT
P - 1077	Electrically-Heated Combustion Catalyst Structure and Method for Start-up of a Gas Turbine	08/688,705	Thomas Rostrup-Nielsen et al.	07/26/96	U.S.

PATENT

REF: 015386 FRAME: 0197

COPY

## AMENDED AND RESTATED CROSS-LICENSE AGREEMENT

THIS AMENDED AND RESTATED CROSS-LICENSE AGREEMENT (this "Agreement") is made and entered into as of December 15, 2000 by and between Catalytica Energy Systems, Inc., formerly known as Catalytica Combustion Systems, Inc., ("CES") and Catalytica, Inc. ("Catalytica"), and amends and restates in its entirety that certain Cross-License Agreement (the "Prior Agreement"), entered into by and between the parties in July 1995 (the "Prior Effective Date").

## RECITALS

WHEREAS, Catalytica and CES have entered into an Assignment and Assumption Agreement as of the Prior Effective Date, wherein Catalytica has assigned to CES ownership of certain intellectual property relating to catalysts and catalytic combustors for combustion systems;

WHEREAS, Catalytica and CES recognize that as a result of their research and business activities prior to the date hereof, each may acquire a transferable interest in intellectual property having potential value to the other Party in its line of business, which, in the case of CES, is the development, manufacture and commercialization of combustion systems and gas sensing or monitoring devices ("Combustion/Sensor Field") and, in the case of Catalytica, is the development, manufacture and commercialization of products and processes outside of the Combustion/Sensor Field;

WHEREAS, Catalytica and CES wish to facilitate the exchange of transferable intellectual property which may have value to the other Party in its line of business and to license to that Party the rights to practice under such transferable intellectual property as may be necessary to enable that Party to develop, manufacture and commercialize products and/or processes related to its line of business;

WHEREAS, Catalytica has entered into an Agreement and Plan of Merger, dated as of August 2, 2000 (the "Merger Agreement"), with Synotex Company, Inc. and Synotex Acquisition Corporation ("Merger Sub") pursuant to which, in connection with the distribution by Catalytica of its shares of CES, Merger Sub will merge with and into Catalytica (the "Merger");

WHEREAS, Catalytica Advanced Technologies, Inc. ("CAT") and Catalytica have entered into that certain Cross-License Agreement, made and entered into as of July 1995 (the "CAT License"); and

WHEREAS, CAT has merged with and into CES (or will do so prior to the Merger).

NOW, THEREFORE, in consideration of the above premises and the mutual covenants herein contained, the Parties hereto agree to amend and restate the Prior Agreement in its entirety as follows:

JUN.26.2002 9:41AM CATALYTICA INC

NO.022 P.3

## 1. Definitions.

(a) "CES's Line of Business" means the research (including contract research for third parties), development, manufacture (including manufacture for CES by third parties) and commercialization of (i) catalysts, catalytic combustors, and catalytic processes for use in combustion systems for gas turbines, burners, furnaces and the like to improve combustion efficiency and/or reduce pollutants in the gaseous effluents; (ii) gas sensor and monitoring devices, including components employed therein; and (iii) catalysts, products and processes in the petroleum, petrochemical and chemical industries, other than fine chemicals and pharmaceuticals.

(b) "Catalytica's Line of Business" means the research (including contract research for third parties), development, manufacture (including manufacture for Catalytica by third parties) and commercialization of products and/or processes related to the fine chemicals and pharmaceuticals industry.

(c) "Intellectual Property" means any and all ideas, procedures, processes, designs, inventions, discoveries, technologies, know-how, show-how, trade secrets, documents and works of authorship owned or possessed without restriction on transfer, including without limitation, any and all (i) issued United States and foreign patents, utility models and the like, applications therefor pending before any relevant authority worldwide, any patents, utility models and the like issuing from such applications, and any additions, continuations, continuations-in-part, divisions, reissues or extensions based thereon; (ii) copyrights and other rights in works of authorship; (iii) mask work rights; (iv) trade secrets; (v) rights in trademarks, trade names, service marks or other product or corporate identifications; and (vi) any other intellectual property rights, in each case, relating to, or used in connection with, CES's Line of Business and/or Catalytica's Line of Business.

## 2. License Grants.

(a) Subject to the terms and conditions of this Agreement, Catalytica hereby grants to CES a royalty-free, exclusive (with respect to Catalytica as well as to any third party) within CES's Line of Business, worldwide and irrevocable license and right to use all Intellectual Property owned by Catalytica that is related to CES's Line of Business and that is conceived, authored, developed or acquired by Catalytica at any time during the period beginning on the Prior Effective Date of this Agreement and ending on the Effective Time (as defined in the Merger Agreement) (collectively, the "Catalytica Intellectual Property"), solely for purposes of making, having made, using, leasing or selling products and/or processes within the field-of-use of CES's Line of Business, including unlimited rights to sublicense within such field-of-use (provided that (i) each sublicense shall have a field-of-use no broader than the field-of-use of the license granted hereunder to CES and terms and restrictions no less stringent and protective of Catalytica's interests than those hereof, and (ii) no sublicensee shall have any right to grant any further sublicense or any right to use the Catalytica Intellectual Property to any third party). Except for the license and right granted to CES pursuant to this Section 2(a), CES shall have no rights, title or interest in and to any of the Catalytica Intellectual Property and Catalytica shall retain all such rights, title and interest.

JUN.26.2002 9:41AM CATALYTICA INC

NO. 022 P.4

(b) Subject to the terms and conditions of this Agreement, CES hereby grants to Catalytica a royalty-free, exclusive (with respect to CES as well as to any third party) within Catalytica's Line of Business, worldwide and irrevocable license and right to use all Intellectual Property owned by CES that is related to Catalytica's Line of Business and that is conceived, authored, developed or acquired by CES and/or by CAT at any time during the period beginning on the Prior Effective Date of this Agreement and ending on the Effective Time (as defined in the Merger Agreement) (collectively, the "CES Intellectual Property"), solely for purposes of making, having made, using, leasing or selling products and/or processes within the field-of-use of Catalytica's Line of Business, including unlimited rights to sublicense within such field-of-use (provided that (i) each sublicense shall have a field-of-use no broader than the field-of-use of the license granted hereunder to Catalytica and terms and restrictions no less stringent and protective of CES's interests than those hereof, and (ii) no sublicensee shall have any right to grant any further sublicense or any right to use the CES Intellectual Property to any third party). Except for the license and right granted to Catalytica pursuant to this Section 2(b), Catalytica shall have no rights, title or interest in and to any of the CES Intellectual Property and CES shall retain all such rights, title and interest.

### 3. Transfer of Information.

Within 6 months of the Effective Time, the parties shall meet and identify the specific Catalytica Intellectual Property and CES Intellectual Property licensed hereunder. Following such meeting, the parties shall attach a list of such identified Intellectual Property as an exhibit to this Agreement.

### 4. Non-Disclosure.

Each Party shall use its best efforts and exercise utmost diligence to protect, guard and maintain the confidentiality of that part of the Intellectual Property which is confidential to the other Party (hereinafter "Confidential Information"). Except, as required for development, manufacture and commercialization of products or processes as set forth herein, receiving Party shall not directly or indirectly disclose or disseminate the Confidential Information to any third party without the prior written consent of the disclosing Party.

### 5. Termination of CAT License. The CAT License is hereby terminated.

### 6. Miscellaneous

(a) This Agreement contains the entire understanding between the Parties with respect to the subject matter hereof and may be modified only by a written instrument duly executed by each Party's authorized representative. If either Party shall on any occasion fail to perform any provision of this Agreement and the other Party shall not enforce that provision, the failure to enforce on that occasion shall not prevent enforcement on any other occasion.

(b) If any provision of this Agreement is held invalid by any law, rule, order or regulation of any government or by the final determination of any state or federal court, such invalidity shall

JUN. 26. 2002 9:41AM CATALYTICA INC

NO. 022 P. 5

not affect the enforceability of any other provision not held to be invalid, and such invalidity shall not affect the enforceability of such provision in any jurisdiction where such provision has not been held to be invalid.

- (c) Neither Party shall assign this Agreement or its rights and obligations hereunder without the prior written consent of the other Party, provided, however, that this Agreement may be assigned by either Party to a purchaser of its entire business upon prior written notice to the other Party.
- (d) This Agreement shall be governed by the laws of the State of California. Any dispute, controversy or claim arising between the parties relating to the interpretation or performance of this Agreement shall be resolved in the manner specified in Section 5.6 of the Master Separation Agreement, dated as of an even date herewith, between Catalytica and CES (the "Master Separation Agreement").
- (e) Paragraph headings and captions used herein are for conveniences of reference only and shall not be used in the construction or interpretation of this Agreement. This Agreement has been jointly prepared on the basis of the mutual understanding of the Parties and shall not be construed against either Party by reason of such Party's being the drafter hereof.
- (f) Notices, demands, offers, requests or other communications required or permitted to be given by either party pursuant to the terms of this Agreement shall be made in accordance with Section 6.6 of the Master Separation Agreement.
- (g) The term of this Agreement shall commence on the Effective Time and shall continue indefinitely.
- (h) Except as may be contemplated in Master Services Agreement and the Ancillary Agreements (as such term is defined in the Master Services Agreement) and as mutually agreed upon from time to time, neither party hereto shall have any obligation to provide the other party with any technical assistance, training or consulting with respect to any technology or Intellectual Property licensed hereunder.

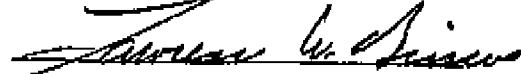
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JUN.26.2002 9:42AM CATALYTICA INC

NO.022 P.6

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement to be effective as of the date first written above.


CATALYTICA, INC.

  
By:

Name: Lawrence W. Briscoe

Title: Vice President, Finance and  
Administration  
Chief Financial Officer

CATALYTICA ENERGY SYSTEMS, INC.

  
By:

Name: Craig N. Kitchen

Title: President and Chief Executive Officer

PATENT

REEL: 015386 FRAME: 0202

JUN. 26. 2002 9:42AM CATALYTICA INC  
MAY 25-2002 02:18pm From-CATALYTICA INC

480-315-3745

NO. 022 P. 7  
T-176 P. 002/007 P-166

COPY

**CERTIFICATE OF CORRECTION  
TO  
AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION OF  
CATALYTICA ENERGY SYSTEMS, INC.**

Catalytica Energy Systems, Inc. (formerly known as Catalytica Combustion Systems, Inc.), a corporation organized and existing under the General Corporation Law of the State of Delaware (the "Corporation") does hereby certify that:

1. The name of the corporation is Catalytica Energy Systems, Inc.
2. An Amended and Restated Certificate of Incorporation (the "Restated Certificate") was filed with the Secretary of State of Delaware on December 15, 2000, and said Restated Certificate requires correction as permitted by Section 103 of the General Corporation Law of the State of Delaware.
3. The Restated Certificate is defective in that it incorrectly refers to the name of the Corporation as Catalytica Energy Systems, Inc. and incorrectly indicates that all stockholders approved the Restated Certificate.
4. The corrected Restated Certificate is attached hereto as Annex A.

IN WITNESS WHEREOF, Catalytica Energy Systems, Inc. has caused this Certificate to be signed by its authorized officer this 11<sup>th</sup> day of April, 2002.

CATALYTICA ENERGY SYSTEMS, INC.



Dennis Riebe  
Chief Financial Officer

JUN. 26. 2002 9:42AM CATALYTICA INC  
Jun-26-2002 02:18pm From-CATALYTICA INC

480-315-3745

NO. 022 P. 8  
T-178 P. 003/007 F-186

**CERTIFICATE OF CORRECTION  
TO  
CERTIFICATE OF AMENDMENT OF  
CATALYTICA ENERGY SYSTEMS, INC.**


Catalytica Energy Systems, Inc. (formerly known as Catalytica Combustion Systems, Inc.), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

**DOES HEREBY CERTIFY:**

1. The name of the corporation is Catalytica Energy Systems, Inc.
2. A Certificate of Amendment (the "Certificate of Amendment") was filed with the Secretary of State of the State of Delaware on October 12, 2000 which contains an inaccurate record of the corporate action taken therein, and said Certificate of Amendment requires correction as permitted by subsection (f) of Section 103 of the General Corporation Law of the State of Delaware.
3. The Certificate of Amendment incorrectly states that the amendments set forth therein were approved in accordance with Section 242 of the General Corporation Law of the State of Delaware.
4. The Certificate of Amendment is therefore null and void and of no effect.

Catalytica Energy Systems, Inc. has caused this Certificate of Correction to be signed by its authorized officer this 11<sup>th</sup> day of April, 2002.

**CATALYTICA ENERGY SYSTEMS, INC.**

  
Dennis Riebe  
Chief Financial Officer

JUN.26.2002 9:42AM CATALYTICA INC  
Jun-26-2002 02:18pm From-CATALYTICA I

480-215-9746

NO.022 P.9  
T-178 P.004/007 F-186

**CERTIFICATE OF CORRECTION  
TO  
CERTIFICATE OF AMENDMENT OF  
CATALYTICA ENERGY SYSTEMS, INC.**

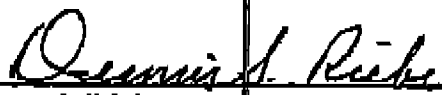
Catalytica Energy Systems, Inc. (formerly known as Catalytica Combustion Systems, Inc.), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

**DOES HEREBY CERTIFY:**

1. The name of the corporation is Catalytica Energy Systems, Inc.
2. A Certificate of Amendment (the "Certificate of Amendment") was filed with the Secretary of State of the State of Delaware on October 12, 2000 which contains an inaccurate record of the corporate action taken therein, and said Certificate of Amendment requires correction as permitted by subsection (f) of Section 103 of the General Corporation Law of the State of Delaware.
3. The Certificate of Amendment incorrectly states that the amendments set forth therein were approved in accordance with Section 242 of the General Corporation Law of the State of Delaware.
4. The Certificate of Amendment is therefore null and void and of no effect.

Catalytica Energy Systems, Inc. has caused this Certificate of Correction to be signed by its authorized officer this 12<sup>th</sup> day of April, 2002.

CATALYTICA ENERGY SYSTEMS, INC.

  
Dennis Riebe  
Chief Financial Officer

JUN. 26. 2002 9:43AM CATALYTICA INC  
Jun-26-2002 02:18pm From CATALYTICA II

480-815-8745

NO. 022 P. 10  
T-178 P. 006/007 F-188

**CERTIFICATE OF CORRECTION  
TO  
AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION OF  
CATALYTICA ENERGY SYSTEMS, INC.**

Catalytica Energy Systems, Inc. (formerly known as Catalytica Combustion Systems, Inc.), a corporation organized and existing under the General Corporation Law of the State of Delaware (the "Corporation") does hereby certify that:

1. The name of the corporation is Catalytica Energy Systems, Inc.
2. An Amended and Restated Certificate of Incorporation (the "Restated Certificate") was filed with the Secretary of State of Delaware on December 15, 2000, and said Restated Certificate requires correction as permitted by Section 103 of the General Corporation Law of the State of Delaware.
3. The Restated Certificate is defective in that it incorrectly refers to the name of the Corporation as Catalytica Energy Systems, Inc. and incorrectly indicates that all stockholders approved the Restated Certificate.
4. The corrected Restated Certificate is attached hereto as Annex A.

IN WITNESS WHEREOF, Catalytica Energy Systems, Inc. has caused this Certificate to be signed by its authorized officer this 12<sup>th</sup> day of April, 2002.

CATALYTICA ENERGY SYSTEMS, INC.



Dennis Riebe  
Chief Financial Officer

JUN 26 2002 9:43AM CATALYTICA INC  
Jun-26-2002 02:18pm From-CATALYTICA INC

480-816-8745

NO. 022 P. 11  
T-178 P. 008/007 P-168

COPY


**CERTIFICATE OF CORRECTION  
TO  
CERTIFICATE OF OWNERSHIP AND MERGER  
MERGING ADVANCED SENSOR DEVICES, INC., A CALIFORNIA CORPORATION  
WITH AND INTO CATALYTICA ENERGY SYSTEMS, INC., A DELAWARE  
CORPORATION**

Catalytica Combustion Systems, Inc., a corporation organized and existing under the General Corporation Law of the State of Delaware (the "Corporation") does hereby certify that:

1. The name of the corporation is Catalytica Combustion Systems, Inc.
2. A Certificate of Ownership and Merger Merging Advanced Sensor Devices, Inc., a California Corporation with and into Catalytica Energy Systems, Inc., a Delaware Corporation (the "Merger Certificate") was filed with the Secretary of State of Delaware on December 14, 2000, and the Merger Certificate requires correction, as permitted by Section 103 of the General Corporation Law of the State of Delaware.
3. A Certificate of Correction was filed on April 12, 2002, which nullified and voided the Certificate of Amendment of Catalytica Combustion Systems, Inc. filed on October 12, 2000 changing the Corporation's name from Catalytica Combustion Systems, Inc. to Catalytica Energy Systems, Inc.
4. The Merger Certificate is defective in that it incorrectly refers to the name of the Corporation as Catalytica Energy Systems, Inc.
5. The Merger Certificate is hereby amended in its entirety to replace each reference to "Catalytica Energy Systems, Inc." with "Catalytica Combustion Systems, Inc."

IN WITNESS WHEREOF, Catalytica Combustion Systems, Inc. has caused this Certificate to be signed by its authorized officer this 12<sup>th</sup> day of April, 2002.

CATALYTICA COMBUSTION SYSTEMS, INC.

  
Dennis Riebe  
Chief Financial Officer

JUN. 26. 2002 9:43AM CATALYTICA INC  
Jun-28-2002 02:18pm From-CATALYTICA

480-816-3746

NO. 022 P. 12  
T-178 P. 007/007 F-188

COPY

**CERTIFICATE OF CORRECTION  
TO  
CERTIFICATE OF MERGER  
MERGING CATALYTICA ADVANCED TECHNOLOGIES, INC., A DELAWARE  
CORPORATION WITH AND INTO CATALYTICA ENERGY SYSTEMS, INC., A  
DELAWARE CORPORATION**

Catalytica Combustion Systems, Inc., a corporation organized and existing under the General Corporation Law of the State of Delaware (the "Corporation") does hereby certify that:

1. The name of the corporation is Catalytica Combustion Systems, Inc.
2. A Certificate of Merger Merging Catalytica Advanced Technologies, Inc., a Delaware Corporation with and into Catalytica Energy Systems, Inc., a Delaware Corporation (the "Merger Certificate") was filed with the Secretary of State of Delaware on December 15, 2000, and the Merger Certificate requires correction, as permitted by Section 103 of the General Corporation Law of the State of Delaware.
3. A Certificate of Correction was filed on April 12, 2002, which nullified and voided the Certificate of Amendment of Catalytica Combustion Systems, Inc. filed on October 12, 2000 changing the Corporation's name from Catalytica Combustion Systems, Inc. to Catalytica Energy Systems, Inc.
4. The Merger Certificate is defective in that it incorrectly refers to the name of the Corporation as Catalytica Energy Systems, Inc.
5. The Merger Certificate is hereby amended in its entirety to replace each reference to "Catalytica Energy Systems, Inc." with "Catalytica Combustion Systems, Inc."

IN WITNESS WHEREOF, Catalytica Combustion Systems, Inc. has caused this Certificate to be signed by its authorized officer this 12<sup>th</sup> day of April, 2002.

CATALYTICA COMBUSTION SYSTEMS, INC.

  
Dennis Riebe  
Chief Financial Officer