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TO:EXXONMOBIL RESEARCH AND ENGINEERING CO. COMPANY:1545 ROUTE 22 EAST

## PATENT ASSIGNMENT

Electronic Version v1.1

07/13/2009

Stylesheet Version v1.1

500908737

SUBMISSION TYPE:	NEW ASSIGNMENT														
NATURE OF CONVEYANCE:	ASSIGNMENT														
CONVEYING PARTY DATA															
<table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Mr. Robert F. Tammera</td><td>06/23/2009</td></tr><tr><td>Mr. Edward Nicholas Jones</td><td>07/09/2009</td></tr><tr><td>Mr. Christopher G. Smalley</td><td>08/25/2009</td></tr><tr><td>Mr. Phillip A. Deis</td><td>08/25/2009</td></tr><tr><td>Mr. Alvin U. Chen</td><td>08/25/2009</td></tr><tr><td>Mr. Christopher S. Gurciullo</td><td>08/24/2009</td></tr></tbody></table>		Name	Execution Date	Mr. Robert F. Tammera	06/23/2009	Mr. Edward Nicholas Jones	07/09/2009	Mr. Christopher G. Smalley	08/25/2009	Mr. Phillip A. Deis	08/25/2009	Mr. Alvin U. Chen	08/25/2009	Mr. Christopher S. Gurciullo	08/24/2009
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RECEIVING PARTY DATA															
<table border="1"><tr><td>Name:</td><td>ExxonMobil Research and Engineering Company</td></tr><tr><td>Street Address:</td><td>1545 Route 22 East</td></tr><tr><td>Internal Address:</td><td>P. O. Box 900</td></tr><tr><td>City:</td><td>Annandale</td></tr><tr><td>State/Country:</td><td>NEW JERSEY</td></tr><tr><td>Postal Code:</td><td>08801-0900</td></tr></table>		Name:	ExxonMobil Research and Engineering Company	Street Address:	1545 Route 22 East	Internal Address:	P. O. Box 900	City:	Annandale	State/Country:	NEW JERSEY	Postal Code:	08801-0900		
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PROPERTY NUMBERS Total: 1															
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Application Number:	12387834														
CORRESPONDENCE DATA															
Fax Number: (808)730-3649															
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>															
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Address Line 2: P. O. Box 900															
Address Line 4: Annandale, NEW JERSEY 08801-0900															
ATTORNEY DOCKET NUMBER:	2008EM132-US2 12/387,834														

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TO:EXXONMOBIL RESEARCH AND ENGINEERING CO. COMPANY:1545 ROUTE 22 EAST

NAME OF SUBMITTER:

Bruce M. Bordelon

Total Attachments: 1

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USSN 12/387,834  
Filed May 8, 2009

**ASSIGNMENT**  
**INVENTOR or INVENTORS:**

Robert F. Tammeira  
Alvin U. Chen

Edward Nicholas Jones  
Christopher S. Gurdicullo

Christopher G. Smalley

Phillips A. Deis

For good and valuable consideration, the undersigned person(s) named above, herein referred to as UNDERSIGNED, hereby agree(s) as follows:

1) UNDERSIGNED hereby assign(s) to ExxonMobil Research and Engineering Company (formerly Exxon Research and Engineering Company), a corporation of Delaware, its successors, legal representatives and assigns, herein referred to collectively as ASSIGNEE, the entire right, title and interest, for the United States and all foreign countries, in and to UNDERSIGNED's invention or improvement and to all patent applications and patents covering same which is described in a patent application entitled

**IMPROVED FCC REACTOR AND RISER DESIGN FOR SHORT CONTACT-TIME CATALYTIC CRACKING  
OF HYDROCARBONS**

said application having been executed on the 23rd, 24th, 25th day(s) of June July 2009, and being further identified as Docket Number 2008EM132-US2 (BMB-0907); and all rights of priority created by said application under provisions of international conventions or treaties.

2) UNDERSIGNED agree(s) upon the request of ASSIGNEE to execute any and all applications for and documents relating to obtaining patents and the prosecution thereof for said invention or improvement, and any continuations of such applications or substitutes therefor or registrations thereof, and any specific separate assignments of any of the above required for recording in the United States Patent and Trademark Office and any foreign patent office that ASSIGNEE may deem necessary or expedient.

3) UNDERSIGNED agree(s) that in the event of any application based on said assigned invention or improvement, or patent issued thereon, or any reissue or application for the reissue thereof, becoming involved in priority of invention proceedings, UNDERSIGNED will cooperate with ASSIGNEE to the best of the ability of UNDERSIGNED in the matter of preparing and executing all documents and giving and producing evidence in support thereof.

4) UNDERSIGNED agree(s) to perform upon ASSIGNEE's request any and all affirmative acts to obtain United States and foreign patents covering said invention or improvement and to vest all rights therein hereby conveyed to ASSIGNEE, as fully and as entirely as the same would have been held and enjoyed by UNDERSIGNED if this assignment and sale had not been made.

5) UNDERSIGNED hereby authorize(s) ASSIGNEE to insert in this instrument the date(s) on which UNDERSIGNED executed the Declaration for the above-referenced patent application.

IN WITNESS WHEREOF, this assignment has been executed by UNDERSIGNED on the date opposite UNDERSIGNED's NAME.

Date JUNE 23, 09  
7/9/09

Inventor Robert F. Tammeira (LS)  
Robert F. Tammeira

Witness Kevin J. Starnes

Date 6/24/09

Inventor Edward Nicholas Jones (LS)  
Edward Nicholas Jones

Witness Philip J. Lerant

Date 6/25/09

Inventor Christopher G. Smalley (LS)  
Christopher G. Smalley

Witness Kathy Kunkel

Date 6/25/09

Inventor Phillip A. Deis (LS)  
Phillip A. Deis

Witness Chris Kunkel

Date 6/25/09

Inventor Alvin U. Chen (LS)  
Alvin U. Chen

Witness Alvin U. Chen

Date 6/24/09

Inventor Christopher S. Gurdicullo (LS)  
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Witness Christopher G. Smalley



27810

PATENT TRADEMARK OFFICE

Family Number: 2008EM132-US2