# 505334915 02/19/2019

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
YINGHUAN LEI	08/21/2017
TODD A. CORBET	08/21/2017
ROBERT EDWARD COCHRAN	08/22/2017
SERGIO M. HERNANDEZ-GONZALEZ	08/22/2017
UMA VAJAPEYAZULA	08/23/2017
WEICHAO WANG	08/21/2017
MARC A GRECA	08/21/2017
JOSEPH M. BRAULT	08/21/2017

### **RECEIVING PARTY DATA**

Name:	CUMMINS EMISSION SOLUTIONS INC.
Street Address:	500 JACKSON STREET
City:	COLUMBUS
State/Country:	INDIANA
Postal Code:	47201

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16325673

#### **CORRESPONDENCE DATA**

**Fax Number:** (312)832-4700

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** 312-832-4500

**Email:** rfernandez@foley.com,jolsen@foley.com

Correspondent Name: ROBERTO J. FERNANDEZ/FOLEY & LARDNER LLP

Address Line 1: 321 NORTH CLARK STREET, SUITE 2800

Address Line 4: CHICAGO, ILLINOIS 60654

ATTORNEY DOCKET NUMBER: 106389-5470	
NAME OF SUBMITTER:	ROBERTO J. FERNANDEZ
SIGNATURE:	/ Roberto J. Fernandez /

PATENT 505334915 REEL: 048370 FRAME: 0245

DATE SIGNED:	02/19/2019
Total Attachments: 10	
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PATENT REEL: 048370 FRAME: 0246

#### ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

Cummins Emission Solutions Inc. 500 Jackson Street Columbus, Indiana 47201

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to this invention relating to

# SYSTEM FOR ADAPTIVE REGENERATION OF AFTERTREATMENT SYSTEM COMPONENTS

check one	[	executed concurrently herewith,	
	ſ	executed on	
	ĪΧ	Serial No. PCT/US2017/046755	Filed 8/14/2017

as set forth in this United States Patent Application

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES ASSIGNEE to file patent applications in any or all countries on the above-identified invention or inventions in the name of the undersigned or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable under the International Convention or otherwise.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

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ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of **Foley & Lardner LLP** the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of Foley & Lardner LLP do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

Executed this 2 day of	has ,2017.		
	J	V 1 1 1	
	, and the second	YINGHUAN LEI	

State of Indiana)

County of Bartholomew )

On Aug. 21, 2017, before me, Carmelita Kay Kohl-Smith /Notary Public

Here insert Name and Title of the Officer (Notary Public)

personally appeared YINGHUAN LEI
Name(s) of Signer(s)

who 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/their 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.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

Signature of Notary Public

CARMELITA KAY KOFL-SMITH

Dautodonay Dautoy

My Commission Explish

Any 27, 2723

Executed this 21 day of Aug, 2017

TODD A. CORBET

State of indiana)

County of Bartholomew

On Aug. 21, 2017 before me, Carmelita Kay Kohl-Smith /Notary Public Bute Here Insert Name and Title of the Officer (Notary Public)

personally appeared <u>TODD A. CORBET</u>
Name(s) of Signer(s)

who 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/their 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.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

HillSuite

WITNESS my hand and official seal.

Signature

Signature of Notary Public [

CARMELITA KAY KOHL-SMITH Batholomew County My Commission Expires June 17, 2023

Executed this 22 day of Av 3 vst., 2017.

ROBERT EDWARD COCHRAN

State of Indiana)

County of Bartholomew

On Aug., 22,2017, before me, <u>Carmelita Kay Kohl-Smith /Notary Public</u>

Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>ROBERT EDWARD COCHRAN</u>
Name(s) of Signer(s)

who 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/their 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.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature (LVML(LTA)/CU4/

Signature of Notary Ideblic

CARMELITA KAY KOHL-SMITH Barlindomew County My Commission Expires June 17, 2023

Executed this 22 day of Aogust, 2017.

ÉRĢIO M) HERNANDEZ-GONZALEZ

State of Indiana)

County of Bartholomew )

On Aug. 22, 2017, before me, Carmelita Kav Kohl-Smith /Notary Public Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>SERGIO M. HERNANDEZ-GONZALEZ</u> Name(s) of Signer(s)

who 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/their 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.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

Signature of Notabe Buld CARMELITA KAY KOHL SMITH

Bartindomery County My Commission Expires June 17, 2023

Atty. Dkt. No. 106389-4600

Executed this 23 day of Aleg 2017.

UMA VAJAPEYAZULA

State of Indiana)

County of Bartholomew

On <u>Hug JJ, JOJ</u>, before me, <u>Carmelita Kay Kohl-Smith /Notary Public</u>

Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>UMA VAJAPEYAZULA</u>
Name(s) of Signer(s)

who 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/their 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.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature (WMVLTL4 LOU KALL) No.

Signature of Notary Public

CARMELITA KAY KOHL SMITH Barthofornew County My Commission Expires June 17, 2023

Atty. Dkt. No. 106389-4600

Executed this 21 day of 4000, 2017.

WEICHAO WANG

State of Indiana)

County of Bartholomew

On Aug. 21, 2017, before me, Carmelita Kay Kohl-Smith /Notary Public Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>WEICHAO WANG</u>
Name(s) of Signer(s)

who 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/their 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.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signatura Personalita Kasa Kild Smit

Signature of Notary bublic

CARMELITA KAY KOHL-SMITH
Baithdomew County
My Commission Expires
June 17, 2023

Executed this 21 day of August, 2011.

MARC A GRECA

State of Indiana)

County of Bartholomew

On August 2/2017, before me, Carmelita Kay Kohl-Smith Notary Public

Here Insert Name and Title of the Officer (Notary Public)

personally appeared <u>MARC A GRECA</u>
Name(s) of Signer(s)

who 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/their 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.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my, hand and official seal.

Signature (

Signature of Notary Public

CARMELITA KAY KOHL-SMITH
Batholomew County
My Commission Expires
June 17, 2023

Atty. Dkt. No. 106389-4600

Executed this 21st day of August, 2017.

JOSEPH M. BRAULT

State of Indiana)

County of Bartholomew )

On <u>Aug. 21, 2017</u>, before me, <u>Carmelita Kay Kohl-Smith /Notary Public</u> Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>JOSEPH M. BRAULT</u>
Name(s) of Signer(s)

who 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/their 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.

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WITNESS my hand and official seal.

Cianatura

Signature of Notary Public

CARMELITA KAY KOHL-SMITH
Baitholomew County
My Commission Expires
June 17, 2023

Place Notary Seal Above

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