PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6002003

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SHANE O'CONNOR	03/30/2016
MICHAEL T. LYNCH	03/29/2016
RYAN M. JOHNSON	03/30/2016
RANDOLPH G. ZORAN	03/30/2016
ALEX A. BETHKE	04/01/2016
VICTOR C. CHEW	03/29/2016
ANDREW KOMISAREK	03/30/2016
MICHAEL BATES	03/30/2016
JACK ERICKSON	04/01/2016
DANIEL EDWARD NOVRESKE	04/01/2016
RYAN ROBERT WELCH	03/30/2016
CHAD CARIUS	03/30/2016
OSCAR CHAVIRA	03/29/2016
BRANDON LEEDY	03/30/2016
ERIC R. BUTLER	03/30/2016
WILLIAM J. RUNDE	03/30/2016
BUCKY WOODS	04/01/2016
JUAN MANUEL VALENCIA ARCILA	12/04/2018

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:	16810694

CORRESPONDENCE DATA

PATENT REEL: 052042 FRAME: 0927

505955298

Fax Number:

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: 312-832-4530 Email: jwiggins@foley.com

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

Address Line 1: 321 N. CLARK STREET

Address Line 2: SUITE 3000

Address Line 4: CHICAGO, ILLINOIS 60654

ATTORNEY DOCKET NUMBER:	106389-6116
NAME OF SUBMITTER:	ROBERTO J. FERNANDEZ
SIGNATURE:	/Roberto J. Fernandez/
DATE SIGNED:	03/06/2020

Total Attachments: 20

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, IN 47201 U.S.A.

(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

Integrated Aftertreatment System

		(Sac. 2)	
check one		executed concurrently herewith,	
	ľ] executed on .	
	()	Serial No. <u>15/559,367</u> Filed September 18, 20	17

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.

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 30 day of MPRCH 2016.

State of VOISCONSAVA)
County of TOCKNE

On 5-30-1 Whefore me.

Dascy Police of the Officer Motory Publics

SHANE O'CONNOR

personally appeared <u>SHANE O'CONNOR</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 <u>) DXM X-4</u>

Signature of Notary Public

50-18 Exp.

Place Notary Seal Above

	14. Ú 1. L.L
	MICHAEL A. LYNCH
	8
State of WT County of Tuwe-	
On <u>63/29/2016</u> , before me, <u>H</u>	Sue Thoughe Notury ere Inseri Name and Title of the Officer (Notary Public)
personally appeared MICHAEL T. LYNCH Name(s) of Signer(s)	
who proved to me on the basis of satisfactory e to the within instrument and acknowledged to me that h capacity(ies), and that by his/her/their signature(s) on th which the person(s) acted, executed the instrument.	
l certify under PENALTY OF PERJURY that I	he foregoing paragraph is true and correct.
WITNESS my hand and official scal. Signature 10 1/m 6 Comm En	a 10-29-2017

Executed this 29 day of MARCH 2016.

Place Nothry Scal Above

	Executed this 3014 day of Macch 2016
J98864999999 3	RYANM JOHNSON
State of County	ON 3-30-16, before me. MCCY POKAC, FAM. ASST. Date Here insert Name and Title of New Officer (Notary Public)
	personally appeared RYAN M. JOHNSON

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 seat,

Signature 1

Place Notary Seal Above

Executed this 30 day of March 2016

Randolph H. Josan RANDOLPH G ZOKAN

State of CONSIN

On 3-30-140 before me.

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

personally appeared <u>RANDOLPH G_2ORAN</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

Chancetonia

Structure of Nother Public

-3-30-18 Exp

Place Notary Seal Above

Executed this 1 day of April , 2016.	
11/2-72	
ALEX A. BETH	KE

State of COORAGO County of BOULET

On 04 01 2016, before me, NiCKO OS KOKY WY ON SKU

personally appeared <u>ALEX A. BETHKE</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 afficial seal.

Signature

Signature of Notary Public

NICKOLAS KARICHKOWSKY NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20154039027 MY COMMISSION EXPIRES OCTOBER 2, 2019

Place Notary Seal Above

Executed this 29 day of March, 20 16

VICTOR C. CHEW

State of Indiana)

County of Bartholomew)

On Marda 29,2016, before me, Carmelita Kay Kohl-Smith /Notary Public

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

personally appeared <u>VICTOR C. CHEW</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

Baitholomew County

My Commission Expires

Aine 17, 2023

Place Notary Seal Above

Executed this 30 day of Masch 3016

ADDREW KOMISAREK

State of Wiscons County of TXXXXC

011 **5-30-14**0 , before me,

O , before me, DOVCH HOLKORC, PAW, HSS Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>ANDREW KOMISAREK</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 PERIURY that the foregoing paragraph is true and correct

WITNESS my hand and official-seal,

Signature 🕽 🥻 🖔

Signature of Notary Public

Place Notary Seal Above

Executed this 30 day of March 20/6.

MICHAEL BATES

State of Indiana)

County of Bartholomew)

On Mard 30,2016, before me, Carmelita Kay Kohl-Smith /Notary Public Here Insert Name and Title of the Officer (Notary Public)

personally appeared <u>MICHAEL BATES</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 seel,

Signature Comole

Signature of Notary Italia

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

Place Notary Seal Above

State of Indiana)

County of Bartholomew

On April 1, 2016, before me, Carmelita Kay Kohl-Smith /Notary Public Here Insert Name and Title of the Officer (Notary Public)

personally appeared <u>IACK ERICKSON</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.

- /la

Signature of Notary Public

CARMELITA KAY KOHLSMITH Banholomew County My Commission Expires June 17, 2023

Place Notary Seal Above

Executed this 1	day of _ APR1 , 20 <u>16</u> .	
		Q.Q
	•	DANIEL EDWARD NOVRESKE

State of Indiana)

County of Bartholomew

On April 1 2016 before me, Carmelita Kay Kohl-Smith /Notary Public Here insert Name and Title of the Officer (Notary Public)

personally appeared <u>DANIEL EDWARD NOVRESKE</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 ugy hand and official scal.

Signature/

Signature of Notacy Public



CARMELITA KAY KOHL SMITH Berthdomaw County My Constitution Expires June 17, 2023

Place Notary Scal Above

Executed this 30 day of March . 2016.

Ryan ROBERT WELCH

State of 10 (4 CV) SV) County of 10 CV(P)

On 3-30-16, hefore me.

OCCULTICK OSC VICEN. 1455 Here insert Name and Was of the Officer (Notary Public)

personally appeared <u>RYAN ROBERT WELCH</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.

WITN):5S my hand and officiet-scal.

Simmature

Signature of Notary Public

Place Notary Scal Above

Executed this 30 day of Mach

State of Indiana)

County of Bartholomew

30, 2016, before me, <u>Carmelita Kay Kohl-Smith Notacy Public</u>
Here insert Name and Title of the Officer (Notary Public)

personally appeared CHAD CARIUS 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 PERIURY that the foregoing paragraph is true and correct.

WITNESS my hand and-official scal.

Signature 🗘 Signature of Notar Dublic

CAPMELITA KAY KOHLISMITH Berüklernen County My Commission Ecologis

Amo 17, 2023

Place Notary Seal Above

Executed this 3 day of 29, 2016.

State of Indiana)

County of Bartholomew)

On Novel 29, 2016, before me. Carmetita Kay Kohl-Smith /Notary Public

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

personally appeared <u>OSCAR CHAVIRA</u> Name(s) of Signor(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/arc 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 PERIURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature (Name lette 1984) 1864

Signature of Notary Public

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

Place Notary Seal Above

Executed this $2C^{\frac{1}{2}k}$ day of $\frac{A_{1,3}}{A_{2,3}}$, 2	of E
	BRANDON LEEDY

County of TOUSE

On 5-3C-16 before me TOUSE Ame and Tule of the Officer (Natury Public)

personally appeared <u>BRANDON LEEDY</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 of Goint-scat.

oignature Com Non North Filth

Signature of Notary Public

Place Notary Seal Above

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Executed this 30 day of MARCH . 2016

State of Vescurisary Country of 150-116

On 3-30-16, before me, Darcy Palace William HSS.

personally appeared ERIC R. BUILER 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.

Place Notary Seal Above

Executed this 3 C day of 2747/3/1, 20 14 WILLIAM RUNDE

State of USCOSSIN

On 3-30-16 before me.

DOSCO PYCKOCC VIDA. ASSE Here Insert Name and Title of the Officer Motory Publics

personally appeared <u>WILLIAM J. RUNDE</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 seat.

Signature

Signature of Notar \ Public

exp.

Place Notary Seal Above

Executed this _____ day of AR. ______, 20/6.

BUCKY WOODS

State of Indiana)

County of Bartholomew

On April 1, 2016, before me, Carmelita Kay Kohl-Smith Notary Public

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

personally appeared <u>BUCKY WOODS</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 scal.

Signature COMPLUS COS 16

Signature of Notary Mublic

CARMELITA KAY KOHL-SMITH
Bullistomer County
My Commission Expires
June 17, 8023

Place Notary Seal Above

Atty. Dkt. No. 106389-3920 15-0151-CES

Executed this 04 day of Drember, 2018.

State of TNDIANA
County of BARTHOLOGIES

On <u>04-DEC-2018</u>, before me, <u>TOBY RESE TOUVSON</u>

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

personally appeared JUAN MANUEL VALENCIA ARCILA 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 scal?

Signature <u>ALL</u> <u>Keece</u> Signature of Notary Public

TOBY REECE JOHNSON Notary Public - Seal State of Indiana Bartholomew County My Commission Expires Sep 10, 2022

Place Notary Service

4842-5859-4688

RECORDED: 03/06/2020