

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT7587100

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JAMES C. CLERC	10/12/2020
BRADLEY V. JONES	10/13/2020
MARC ALEXANDER GRECA	10/19/2020
SANTOSH KUMAR RATAN	10/12/2020
ROHIL DAYA	10/13/2020
KARTHIK VENKATA RAMA KRISHNA DADI	11/09/2020
JINQIAN GONG	10/12/2020
BRYON D. STAEBLER	10/13/2020
TODD A. CORBET	10/12/2020
ALAIN NGOY TSCHIMWANG	10/12/2020
PREMJEE SASIDHARAN	10/12/2020
DAVID C. HALL	10/20/2020

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:	17941337

CORRESPONDENCE DATA**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: (202) 672-5300**Email:** ipdocketing@foley.com, nseymour@foley.com**Correspondent Name:** FOLEY & LARDNER LLP**Address Line 1:** 3000 K STREET, SUITE 600**Address Line 4:** WASHINGTON, D.C. 20007-5109**PATENT**

ATTORNEY DOCKET NUMBER:	106389-7586
NAME OF SUBMITTER:	MILAD S. EMAMIAN
SIGNATURE:	/Milad S. Emamian/
DATE SIGNED:	10/12/2022

Total Attachments: 14

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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

**CONTROLLER AND METHOD FOR CONTROLLING OPERATION OF AN
AFTERTREATMENT SYSTEM BASED ON SHORT-TERM AND LONG-TERM
CUMULATIVE DEGRADATION ESTIMATES**

as set forth in this United States Patent Application

check one executed concurrently herewith,
 executed on _____,
 Serial No. 62/988,755 Filed 3/12/2020

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.

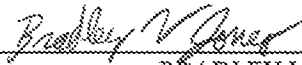
ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of **Foley & Lardner LLP** do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect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

Executed this 12th day of October, 2020.



JAMES C. CLERC

Executed this 13 day of October, 2020.



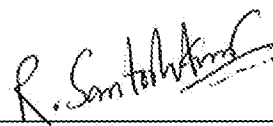
BRADLEY V. JONES

Executed this 19th day of October, 2020.



MARC ALEXANDER GRECA

Executed this 12 day of October, 2020.



SANTOSH KUMAR RATAN

Atty. Dkt. No. 106389-5932

Executed this 13 day of October 2020



ROHIL DAYA

Executed this 9th day of November, 2020

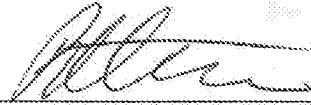
Karthik Venkata Rama Krishna Dadi
KARTHIK VENKATA RAMA KRISHNA DADI

Executed this 12 day of Oct, 2020



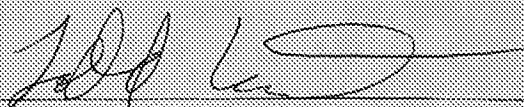
JINQIAN GONG

Executed this 13th day of October, 2020



BRYON D. STAEBLER

Executed this 12 day of Oct., 2020



TODD A. CORBET

Executed this 12th day of October, 2020



ALAIN NGOY TSCHIMWANG

Executed this 12th day of October, 2020.



PREMIEE SASIDHARAN

Executed this 20 day of OCTOBER, 2020



DAVID C. HALL