504836545 03/26/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PHANINDRA V. GARIMELLA	09/24/2015
PAUL V. MOONJELLY	09/18/2015
EDMUND P. HODZEN	09/01/2015
MING-FENG HSIEH	09/24/2015
GAYATRI ADI	09/01/2015
GOKUL VISHWANATHAN	08/29/2015

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15762461

CORRESPONDENCE DATA

Fax Number: (317)237-1000

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: 317-237-0300

Email:Cummins.IP@FaegreBD.comCorrespondent Name:MARK B. LEE / MICKIE POTTERAddress Line 1:300 NORTH MERIDIAN STREET

Address Line 2: SUITE 2400

Address Line 4: INDIANAPOLIS, INDIANA 46204

ATTORNEY DOCKET NUMBER:	CI-14-0262-01-01-US	
NAME OF SUBMITTER:	PATRICE MICHELE POTTER	
SIGNATURE:	/patrice michele potter/	
DATE SIGNED:	03/26/2018	

PATENT 504836545 REEL: 045348 FRAME: 0150

Total Attachments: 4 source=CI_14_0262_01_01_Assignment#page1.tif source=CI_14_0262_01_01_Assignment#page2.tif source=CI_14_0262_01_01_Assignment#page3.tif

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PATENT REEL: 045348 FRAME: 0151

Attorney Docket No.: CI-14-0262-01-PCT-E

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First Named Inventor: Phanindra V. Garimeila et al.

Title:

REFERENCE VALUE ENGINE CONTROL SYSTEMS AND

METHODS

WHEREAS, we, Phanindra V. Garimella, residing at 3919 E Bennington Blvd, Bloomington IN 47401; Paul V. Moonielly, residing at 1918 Heathrow Drive, Columbus, IN 47201; Edmund P. Hodzen, residing at 5564 Wren Court, Columbus, IN 47201; Ming-Feng Hsieh, residing at 197 Deer Trails, Nashville, IN 47448; Gayatri Adi, residing at 3455 Riverstone Way, Apt 1535, Columbus, IN 47201; and Gokut Vishwanathan, residing at 4908 Tothill Drive, Olney, MD 20832, have invented certain new and useful improvements as described in an application entitled REFERENCE VALUE ENGINE CONTROL SYSTEMS AND METHODS, in which an application was made for Letters Patent of the United States, the application having been executed on even date herewith, and/or being identified in the United States Patent and Trademark Office by Application No. PCT/US2015/055445, filed October 14, 2015 __: and

WHEREAS, Cummins Inc., a corporation of the state of Indiana, and having an address of 500 Jackson Street, Columbus, IN 47201 United States of America ("Assignee"), is desirous of acquiring the entire right, title and interest in and to the invention, the application, and any and all Letters Patent or similar legal protection, foreign or domestic, to be obtained therefor:

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, we transfer to Assignee, its successors and assigns, my entire right, title, and interest in and to the invention, the above-identified patent application, corresponding domestic applications (including provisionals, divisionals, continuations, and continuations-in-part), corresponding foreign applications, all Letters Patent or similar legal protection issuing thereon, and all rights and benefits under any applicable treaty or convention; and we authorize the Commissioner of Patents and Trademarks of the United States or foreign equivalent thereof to issue the Letters Patent or similar legal protection to the Assignee.

We authorize the Assignee, its successors and assigns, to insert in this instrument the filing date and application number of the application when ascertained. We authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all foreign countries.

We represent to the Assignee, its successors and assigns, that we have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. We, or our executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries.

Attorney Docket No.: CI-14-0262-01-PCT-E

Page 2 of 4

First Named Inventor: Phanindra V. Garimella et al.

Title:

REFERENCE VALUE ENGINE CONTROL SYSTEMS AND

METHODS

L. V. Phanindose Phanindra V. Garimella

Date 09/24/2015

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF MOIGNA

: SS.

COUNTY OF BARTHOLOMEW

Subscribed and sworn to before me, a Notary Public, this 24H day of SEPTEMBER, 2015.

Notary Public

(SEAL)

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

Paul V. Moonjelly

Date

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF <u>ZVDZBVA</u>

COUNTY OF BARTHOLOMEN

Subscribed and sworn to before me, a Notary Public,

this 18th day of SEPTEMBER, 2015.

Notary Public

(SEAL)

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

Attorney Docket No.: CI-14-0262-01-PCT-E

Page 3 of 4

First Named Inventor: Phanindra V. Garimella et al.

Title:

REFERENCE VALUE ENGINE CONTROL SYSTEMS AND

METHODS

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF INDIANA

COUNTY OF BARTHOLD MEN!

Subscribed and sworn to before me, a Notary Public, this <u>/57</u> day of *SEPTEM & 6*2015.

Notary Public

(SEAL)

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

Ming-Feng Hsieh

124/2015

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF INDIANA

COUNTY OF BARTHOLOMEW

Subscribed and sworn to before me, a Notary Public,

this 24th day of SEPTEMBEL 2015.

Notary Public

(SEAL)

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

Attorney Docket No.: CI-14-0262-01-PCT-E

Page 4 of 4

First Named Inventor: Phanindra V. Garimella et al.

Title:

REFERENCE VALUE ENGINE CONTROL SYSTEMS AND

METHODS

Gayatri Adi

Date 09/01/2015

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF LOCALDIA

COUNTY OF BARTHOLDHEW

Subscribed and sworn to before me, a Notary Public, this $\sqrt{\text{s.c.}}$ day of $\sqrt{\text{s.c.}}$, 2015.

Notary Public

(SEAL)

toby reece Johnson Notary Public - Seal State of Indiana Bartholomew County My Commission Expires Sep 10, 2022

Gokul Vishwanathan

CERTIFICATE OF ACKNOWLEDGMENT

: 88.

Subscribed and sworp to before me, a Notary Public,

this 29^{3} day of 14000, 2015.

Notary Public

BEENA SAJI NOTARY PUBLIC **MONTGOMERY COUNTY** MARYLAND

My Commission Expires 08/02/2018

US.96950022.01

PATENT REEL: 045348 FRAME: 0155

RECORDED: 03/26/2018