

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
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EPAS ID: PAT5318229

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
SYLVAIN CHARBONNEL	11/21/2018
GAVIN WILLIAMS	12/18/2018
MARK SCAIFE	11/27/2018
ANAND KRISHNAMURTHYGOPALAN	11/21/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	CATERPILLAR INC.
<b>Street Address:</b>	510 LAKE COOK ROAD
<b>City:</b>	DEERFIELD
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60015
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16243746
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>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.</i>	
<b>Phone:</b>	5714320800
<b>Email:</b>	rpetras@harrityllp.com
<b>Correspondent Name:</b>	HARRITY AND HARRITY, LLP
<b>Address Line 1:</b>	11350 RANDOM HILLS RD
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<b>Address Line 4:</b>	FAIRFAX, VIRGINIA 22030
<b>ATTORNEY DOCKET NUMBER:</b>	18-0935-70106
<b>NAME OF SUBMITTER:</b>	KENNETH R. HARTMANN II
<b>SIGNATURE:</b>	/Kenneth R. Hartmann II Reg. No. 69,671/
<b>DATE SIGNED:</b>	01/10/2019
<b>Total Attachments: 5</b>	
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## ASSIGNMENT

WHEREAS I/We, the below named inventor(s), [hereinafter referred to as Assignor(s)], have made an invention currently entitled:

### POWER SYSTEM OPTIMIZATION CALIBRATION

for which I/We will or have filed a patent application; and

WHEREAS, **Caterpillar Inc.**, a corporation of **Delaware** whose post office address is **510 Lake Cook Road, Suite 100, Deerfield, Illinois 60015, U.S.A.** (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, and in and to the patent application for this invention and any and all patents to be issued upon this application throughout the world;

NOW THEREFORE, be it known that for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I/We, as Assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my/our entire right, title, and interest in and to this invention, and this application, and all divisions, and continuations thereof, and all patents which may be granted thereon, and all reissues thereof, as well as all rights to claim priority in any country or jurisdiction or patent office on the basis of this application, and all applications for patents which may hereafter be filed for this invention in any country or jurisdiction or patent office and all patents which may be granted on this invention in any country or jurisdiction or patent office, and all extensions, renewals, and reissues thereof; and I/We hereby authorize and request any official of any country or jurisdiction or patent office whose duty it is to issue patents on applications as described above, to issue all patents for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

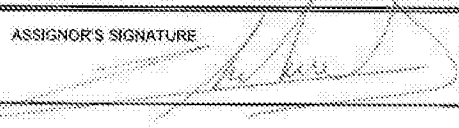
AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment;

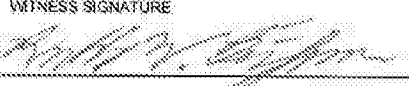
AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to me/us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in any country or jurisdiction or patent office, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns;


AND, I/WE HEREBY authorize the attorneys/representatives that I/WE have empowered to prosecute this application to insert here in parentheses the country, application number, and official filing date ( United States Application No. 16/243,746, filed January 9, 2019 ).

SOLE/JOINT INVENTION  
(Worldwide Rights)  
Attorney Docket No. 0101-0087  
Client Ref. No. 18-0935-70106

IN TESTIMONY WHEREOF, I/We have hereunto set our hands.

FULL NAME OF SOLE OR FIRST ASSIGNOR Sylvain CHARBONNEL	ASSIGNOR'S SIGNATURE 	DATE 11-21-2018
ADDRESS 1025 W. Orchard Ln, Peoria, IL 61615-1322 US		CITIZENSHIP FRANCE

1. WITNESS NAME Richard W. Breyer	WITNESS SIGNATURE 	DATE 11-21-2018
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2. WITNESS NAME Brandon Ferree	WITNESS SIGNATURE 	DATE 11/21/2018
ADDRESS 10015 Brompton Ct, Peoria, IL 61615		CITIZENSHIP USA

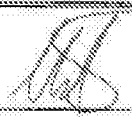
IN TESTIMONY WHEREOF, I/We have hereunto set our hands.


FULL NAME OF ASSIGNOR Gavin WILLIAMS	ASSIGNOR'S SIGNATURE <i>Gavin Williams</i>	DATE 18/12/2018
ADDRESS 10 Castle Rise, Belmesthorpe, Stamford, Lincolnshire PE94JL GB		CITIZENSHIP GB


1. WITNESS NAME JOHN NORTONWOOD	WITNESS SIGNATURE <i>JNortonwood</i>	DATE 18/12/2018
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2. WITNESS NAME ANTONIS DRIS	WITNESS SIGNATURE <i>Anton Dris</i>	DATE 18/12/2018
ADDRESS 74 Roman Way Godmanchester, PE29 2RW.		CITIZENSHIP GB

IN TESTIMONY WHEREOF, I/We have hereunto set our hands.

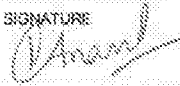
FULL NAME OF ASSIGNOR Mark SCAIFE	ASSIGNOR'S SIGNATURE 	DATE 27 NOV 18
ADDRESS 27 Vinegar Hill, Alconbury Weston, Huntingdon PE28 4JA GB		CITIZENSHIP GB

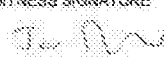
1. WITNESS NAME JOHN RUTLEDGE	WITNESS SIGNATURE 	DATE 27 Nov 18
ADDRESS 5 MEADOWGATE BANTON STAMFORD		CITIZENSHIP REPUBLIC OF
PE9 3AS, UK		IRELAND

2. WITNESS NAME GUY BLUNDELL	WITNESS SIGNATURE 	DATE 27 Nov 2018
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OUNOLE PE84DN, UK		

SOLE/JOINT INVENTION  
(Worldwide Rights)  
Attorney Docket No. 0101-0067  
Client Ref. No. 18-0535-70106

IN TESTIMONY WHEREOF, We have hereunto set our hands.

FULL NAME OF ASSIGNOR Anand KRISHNAMURTHYGOPALAN	ASSIGNOR'S SIGNATURE 	DATE 11/21/18
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1. WITNESS NAME JAGATH JONJALAGEEDA	WITNESS SIGNATURE 	DATE 11/21/18
ADDRESS 2504 W Alabaster Ave, Dunlap, IL 61528		CITIZENSHIP INDIA

2. WITNESS NAME Qun Xue	WITNESS SIGNATURE 	DATE 11/21/18
ADDRESS Dunlap, IL 61528		CITIZENSHIP USA