

<b>PATENT ASSIGNMENT COVER SHEET</b>
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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
EDMUND J. HALL	04/25/2014
STEPHEN J. TYLER	04/29/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	DOMINION RESOURCES, INC.
<b>Street Address:</b>	120 TREDEGAR STREET
<b>City:</b>	RICHMOND
<b>State/Country:</b>	VIRGINIA
<b>Postal Code:</b>	23219
<b>PROPERTY NUMBERS Total: 3</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14562017
<b>Patent Number:</b>	9887541
<b>Application Number:</b>	15868415
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	200355-00130
<b>NAME OF SUBMITTER:</b>	DONALD A. GREGORY
<b>SIGNATURE:</b>	/DAG/
<b>DATE SIGNED:</b>	03/23/2018
<b>Total Attachments: 6</b>	
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**ASSIGNMENT**

**THIS ASSIGNMENT**, made by Edmund J. Hall residing in Louisa County, Virginia and Stephen J. Tyler residing in Henrico County, Virginia (hereinafter collectively referred to as "Assignor");

**WHEREAS**, Assignor has invented certain new and useful improvements in: ELECTRIC POWER SYSTEM CONTROL WITH MEASUREMENT OF ENERGY DEMAND AND ENERGY EFFICIENCY USING T-DISTRIBUTIONS, set forth in an application for Letters Patent of the United States, filed on March 15, 2013 as United States provisional application serial no. 61/789,085, set forth in an application for Letters Patent of the United States, filed on February 28, 2014, as United States application serial no. 14/193,980 and set forth in an application for Patent Cooperation Treaty, filed on March 14, 2014, as international application serial no. PCT/US14/27299; and

**WHEREAS**, Dominion Resources, Inc., a corporation organized under and pursuant to the laws of Virginia, having its principal place of business at 120 Tredegar Street, Richmond, Virginia 23219 (hereinafter referred to as "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefor and thereon.

**NOW, THEREFORE**, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignor has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all non-provisional applications for Letters Patent that are converted from or claim priority to said application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said applications, and any and all Letters Patent in the United States and all foreign countries which may be granted therefor and thereon, and reissues,

reexaminations, other rights from administrative proceedings and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property including all rights of priority, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignor, had this sale and assignment not been made.

AND for the same consideration, Assignor hereby represents and warrants to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignor is the sole and lawful owner of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignor has good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, each Assignor declares as follows: said application for Letters Patent was made or authorized to be made by me; I believe that I am the original inventor or an original joint inventor of a claimed invention in said application for Letters Patent; I have reviewed and understand the contents of said application for Letters Patent, including the claims; I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or Patent Cooperation Treaty (PCT) International filing date of the continuation-in-part application; and all statements made herein of my own knowledge are true; all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both, and may jeopardize the validity of the application or any patent issuing thereon.

AND for the same consideration, Assignor hereby covenants and agrees to and with Assignee, its successors, legal representatives and assigns, that Assignor will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference or derivation proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination, other administrative proceedings or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignor hereby requests that such Letters Patent of the United States and all foreign countries be granted to Assignee, as assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

AND Assignor acknowledges an obligation of assignment of the inventions to Assignee at the time the inventions were made.

ASSIGNOR:

Signed at Richmond, VA, this 25 day of April 2014

By: [Signature]  
Edmund J. Hall

STATE OF Virginia )  
                  City                  ) ss:  
COUNTY OF Richmond )

On this 25<sup>th</sup> day of April 2014, personally before me came Edmund J. Hall, who represented to me to be said person, and who acknowledged that he/she did sign said instrument and that the same is his/her free act and deed.

(SEAL)

[Signature]  
Notary Public  
Registration # 222169  
My commission expires: July 31, 2016

ASSIGNOR:

Signed at Richmond, VA, this 29<sup>th</sup> day of April 2014.

By: [Signature]  
Stephen J. Tyler

STATE OF Virginia )  
City ) ss:  
COUNTY OF Richmond )

On this 29<sup>th</sup> day of April 2014, personally before me came Stephen J. Tyler, who represented to me to be said person, and who acknowledged that he/she did sign said instrument and that the same is his/her free act and deed.

(SEAL)

[Signature]  
Notary Public  
Registration # 222169  
My commission expires: July 31, 2016

ASSIGNEE:

Signed at Richmond, VA, this 1<sup>st</sup> day of May 2014.

Dominion Resources, Inc.

By: M. J. Webb

Print Name: Mark J. Webb

Title: Vice President and General Counsel

STATE OF Virginia )  
CITY Richmond ) ss:  
COUNTY OF Richmond )

On this 1<sup>st</sup> day of May 2014, personally before me came Mark O. Webb, who represented to me to be said person, and who acknowledged that he/she did sign said instrument and that the same is his/her free act and deed and the free act and deed of said corporation.

(SEAL)

Shirley C. Jefferson  
Notary Public

