505328041 02/13/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ALSTOM GRID, INC.	02/06/2015

RECEIVING PARTY DATA

Name:	ALSTOM TECHNOLOGY LTD.	
Street Address:	BROWN BOVERI STRASSE 7	
City:	BADEN	
State/Country:	SWITZERLAND	
Postal Code:	5401	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15059291

CORRESPONDENCE DATA

Fax Number: (216)696-8731

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.

216-696-8730 Phone:

Email: epas@thepatentattorneys.com **Correspondent Name:** AMIN, TUROCY & WATSON, LLP

Address Line 1: 127 PUBLIC SQUARE Address Line 2: 57TH FLOOR, KEY TOWER Address Line 4: CLEVELAND, OHIO 44114

ATTORNEY DOCKET NUMBER:	GRIDP105USA
NAME OF SUBMITTER:	THOMAS WATSON
SIGNATURE:	/Thomas Watson/
DATE SIGNED:	02/13/2019

Total Attachments: 4

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> **PATENT** REEL: 048323 FRAME: 0856 505328041

ASSIGNMENT OF INVENTION AND PATENT RIGHTS

For valuable consideration, the receipt and sufficiency of which is hereby acknowledged,

<u>ALSTOM Grid, Inc.</u>, a public company, having an address at <u>10865 Willows Road NE</u>, Redmond, Washington 98052 ("Assignor")

hereby sell(s), assign(s), transfer(s), and convey(s) unto <u>ALSTOM Technology Ltd.</u>, a Swiss limited liability company, having its registered offices at <u>Brown Boveri Strasse 7, CH-5401 Baden - Switzerland</u> ("Assignee"), all rights, title, and interests that exist today and may exist in the future in and to any and all of the following items (1) through (9) below:

- 1. all inventions claimed *and/or* described in the Patent(s) or Application(s) (collectively, the "Inventions");
- 2. any U.S., PCT, or foreign patent application(s) prepared and filed based on said inventions;
- 3. the patent(s) and patent application(s) listed in the table below (the "Application(s)");

Patent(s)/Patent Application Nos.	Country	Filing Date	Title
13/155,594	US	June 8, 2011	MULTI-LEVEL TOPOGRAPHY FOR ELECTRICAL DISTRIBUTION GRID CONTROL
12170004.1	EP	May 30, 2012	MULTI-LEVEL TOPOGRAPHY FOR ELECTRICAL DISTRIBUTION GRID CONTROL
13/155,707	US	June 8, 2011	ENHANCED COMMUNICATION INFRASTRUCTURE FOR HIERARCHICAL INTELLIGENT POWER DISTRIBUTION GRID
12170377.1	EP	June 1, 2012	ENHANCED COMMUNICATION INFRASTRUCTURE FOR HIERARCHICAL INTELLIGENT POWER DISTRIBUTION GRID
13/155,601	US	June 8, 2011	COORDINATING ENERGY MANAGEMENT SYSTEMS AND INTELLIGENT ELECTRICAL DISTRIBUTION GRID CONTROL SYSTEMS
12170376.3	EP	June 1, 2012	COORDINATING ENERGY MANAGEMENT SYSTEMS AND INTELLIGENT ELECTRICAL DISTRIBUTION GRID CONTROL SYSTEMS
13/155,615	US	June 8, 2011	INTELLIGENT ELECTRICAL DISTRIBUTION GRID CONTROL SYSTEM DATA
14/593,988	US	January 9, 2015	INTELLIGENT ELECTRICAL DISTRIBUTION GRID CONTROL SYSTEM DATA
12170378.9	ЕР	June 1, 2012	INTELLIGENT ELECTRICAL DISTRIBUTION GRID CONTROL SYSTEM DATA

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13/155,751	US	June 8, 2011	LOAD PHASE BALANCING AT MULTIPLE TIERS OF A MULTI-TIER HIERARCHICAL INTELLIGENT POWER DISTRIBUTION GRID
12170379.7	EP	June 1, 2012	LOAD PHASE BALANCING AT MULTIPLE TIERS OF A MULTI-TIER HIERARCHICAL INTELLIGENT POWER DISTRIBUTION GRID
13/105,393	US	May 11, 2011	GENERALIZED GRID SECURITY FRAMEWORK
13/490,708	US	June 7, 2012	DISPATCHING VEHICLE-TO-GRID ANCILLARY SERVICES WITH DISCRETE SWITCHING
13/670,073	US	November 6, 2012	STATE ESTIMATION FOR COOPERATIVE ELECTRICAL GRIDS
13188060.1	EP	October 10, 2013	STATE ESTIMATION FOR COOPERATIVE ELECTRICAL GRIDS
13/656,612	US	October 19, 2012	MULTIDIMENSIONAL INFORMATION GRAPHICAL USER INTERFACE FOR ENERGY SYSTEMS
13/489,201	US	June 5, 2012	PRE-PROCESSING OF DATA FOR AUTOMATIC GENERATION CONTROL
14/158,108	ÚS	January 17, 2014	ELECTRICAL FAULT LOCATION DETERMINATION IN A DISTRIBUTION SYSTEM BASED ON PHASOR INFORMATION

- 4. all rights with respect to the Invention, including all United States patents or other governmental grants or issuances that may be granted with respect to the Inventions or from any direct or indirect divisionals, continuations, continuations-in-part, non-provisionals or other patent applications claiming priority rights from the Application(s) ("Potential Patents");
- 5. all reissues, reexaminations, extensions, or registrations of the Potential Patents;
- 6. all non-United States patents, patent applications, and counterparts relating to any or all of the Invention, the Application(s), and the Potential Patents, including, without limitation, certificates of invention, utility models, industrial design protection, design patent protection, and other governmental grants or issuances ("Foreign Rights"), and including the right to file foreign applications directly in the name of Assignee, its successors and assigns;
- all rights to claim priority rights deriving from the Application(s);
- 8. all causes of action and remedies related to any or all of the Application(s), the Invention, the Potential Patents, and the Foreign Rights (including, without limitation, the right to sue for past, present, or future infringement, misappropriation or violation of rights related to any of the foregoing and the right to collect royalties and other payments under or on account of any of the foregoing); and

9. any and all other rights and interests arising out of, in connection with, or in relation to the Application(s), the Invention, Potential Patents, and the Foreign Rights.

Assignor will not sign any document or do any act conflicting with this Assignment, and, without further compensation, will sign all documents and do such additional acts as Assignee, its successors, legal representatives, and assigns deem necessary or desirable to perfect enjoyment of the Rights, conduct proceedings regarding the Rights (including any litigation or interference proceedings), or perfect or defend title to the Rights. Assignor requests the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models, or other governmental grants or issuances that may be granted upon any of the Rights in the name of the Assignee, as the assignee to the entire interest therein.

Assignor hereby authorizes, requests and grants power to Assignee and Assignee's authorized representative to insert on this Assignment the filing date(s) and Patent Application Numbers in the table above when known.

The terms and conditions of this Assignment will inure to the benefit of Assignee, its successors, legal representatives, and assigns and will be binding upon Assignor, their successors, legal representatives and assigns.

Signed:

Doug Macdonald, Unit Managing Director

on behalf of ALSTOM Grid, Inc.

Date:

PATENT REEL: 048323 FRAME: 0860

RECORDED: 02/13/2019