

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4317924

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST	
<b>CONVEYING PARTY DATA</b>		
<b>Name</b>		<b>Execution Date</b>
POWERPHASE LLC		03/10/2017
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	GTP INVESTMENTS LLC	
<b>Street Address:</b>	8985 SE BRIDGE ROAD	
<b>City:</b>	HOBE SOUND	
<b>State/Country:</b>	FLORIDA	
<b>Postal Code:</b>	33455	
<b>PROPERTY NUMBERS Total: 14</b>		
<b>Property Type</b>	<b>Number</b>	
Application Number:	14329340	
Application Number:	14329433	
Application Number:	14350469	
Application Number:	14351245	
Application Number:	14357136	
Application Number:	14462000	
Application Number:	14534347	
Application Number:	14534598	
Application Number:	14623939	
Application Number:	14665125	
Application Number:	14799913	
Application Number:	14972403	
Application Number:	15228815	
Application Number:	15241390	
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>	(561)775-0270	
<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>	561-746-1002	
<b>Email:</b>	pjeck@jhrjpa.com	

**Correspondent Name:** PHILIPPE JECK  
**Address Line 1:** 790 JUNO OCEAN WALK, SUITE 600  
**Address Line 4:** JUNO BEACH, FLORIDA 33408

**NAME OF SUBMITTER:** PHILIPPE JECK

**SIGNATURE:** /Philippe Jeck/

**DATE SIGNED:** 03/14/2017

This document serves as an Oath/Declaration (37 CFR 1.63).

**Total Attachments: 17**

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## INTELLECTUAL PROPERTY SECURITY AGREEMENT

This INTELLECTUAL PROPERTY SECURITY AGREEMENT (“**IP Security Agreement**”), dated as of March 10, 2017, is made by and among PowerPHASE LLC, a Delaware limited liability company (the “**Guarantor**”) and PowerPHASE International, LTD, a BVI company (, the “**Borrower**”) in favor of GTP Investments, LLC, a Florida limited liability company as the Lender and secured party under the Revolving Loan Agreement referred to below (the “**Secured Party**”).

WHEREAS, the Borrower has entered into a Revolving Loan Agreement dated as of March 10, 2017 (the “**Loan Agreement**”), and Guarantor entered into a Guaranty Agreement dated as of March 10, 2017, respectively with the Secured Party.

WHEREAS, as a condition precedent to the making of loans by the Secured Party under the Loan Agreement, Borrower entered into that certain Pledge and Security Agreement dated as of March 10, 2017, was made by and among the Borrower, the Guarantor and Secured Party (the “**Security Agreement**”).

WHEREAS, under the terms of the Security Agreement, the Borrower and the Guarantor (together the “**Pledges**”) granted Secured Party a security interest in, among other property, certain intellectual property of the Borrower, and;

WHEREAS, Guarantor agreed to execute and deliver this IP Security Agreement, for recording with national, federal and state government authorities, including, but not limited to, the United States Patent and Trademark Office and the United States Copyright Office.

**NOW THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Borrower agrees with the Secured Party as follows:

1. **Grant of Security.** The Borrower hereby pledges and grants to the Secured Party a security interest in and to all of the right, title and interest of the Borrower in, to and under the following (the “**IP Collateral**”):

(a) all patents and patent applications set forth in Schedule 1 hereto or hereafter filed with the United States Patent and Trademark Office or foreign equivalent and all reissues, divisions, continuations, continuations-in-part, renewals, extensions and reexaminations thereof and amendments thereto (the “**Patents**”);

(b) all trademark registrations and applications set forth in Schedule 2 hereto or hereafter filed with the United States Patent and Trademark Office or foreign equivalent, together with the goodwill connected with the use thereof and symbolized thereby and all

extensions and renewals thereof (the "**Trademarks**")[, excluding only United States intent-to-use trademark applications to the extent that, and solely during the period in which, the grant, attachment or enforcement of a security interest therein would, under applicable federal law, impair the registrability of such applications or the validity or enforceability of registrations issuing from such applications];

(c) the copyright registrations, applications [and copyright registrations and applications exclusively licensed to each Grantor] set forth in Schedule 3 hereto or hereafter filed with the United States Register of Copyrights or foreign equivalent, and all extensions and renewals thereof (the "**Copyrights**");

(d) all rights of any kind whatsoever of Borrower accruing under any of the foregoing provided by applicable law of any jurisdiction, by international treaties and conventions and otherwise throughout the world;

(e) any and all royalties, fees, income, payments and other proceeds now or hereafter due or payable with respect to any and all of the foregoing; and

(f) any and all claims and causes of action with respect to any of the foregoing, whether occurring before, on or after the date hereof, including all rights to and claims for damages, restitution and injunctive and other legal and equitable relief for past, present and future infringement, dilution, misappropriation, violation, misuse, breach or default, with the right but no obligation to sue for such legal and equitable relief and to collect, or otherwise recover, any such damages.

2. **Recordation.** Borrower authorizes the Commissioner for Patents, the Commissioner for Trademarks and the Register of Copyrights and any other domestic United States or foreign government officials to record and register this IP Security Agreement upon request by the Secured Party.

3. **Loan Documents.** This IP Security Agreement has been entered into pursuant to and in conjunction with the Security Agreement, which is attached hereto as Exhibit A. The provisions of the Security Agreement shall supersede and control over any conflicting or inconsistent provision herein. The rights and remedies of the Secured Party with respect to the IP Collateral are as provided by the the Security Agreement, and nothing in this IP Security Agreement shall be deemed to limit such rights and remedies.

4. **Execution in Counterparts.** This IP Security Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page to this IP Security Agreement by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart of this IP Security Agreement.

5. **Successors and Assigns.** This IP Security Agreement will be binding on and shall inure to the benefit of the parties hereto and their respective successors and assigns.

6. **Governing Law.** This IP Security Agreement and any claim, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this IP Security Agreement and the transactions contemplated hereby and thereby shall be governed by, and construed in accordance with, the laws of the United States and the State of Delaware, without giving effect to any choice or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction).

**[SIGNATURE PAGE FOLLOWS]**

IN WITNESS WHEREOF, the Borrower has caused this IP Security Agreement to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

**BORROWER:**

PowerPHASE International, LTD,  
a British Virgin Islands company

By: PowerPHASE LLC,  
a Delaware limited liability company,  
its sole shareholder

By: 

Robert J. Kraft, Member

Address for Notices:

1001 North US Highway 1  
Jupiter, Florida 33477

**GUARANTOR:**

PowerPHASE LLC,  
a Delaware limited liability company

By: 

Robert J. Kraft, Member

Address for Notices:

1001 North US Highway 1  
Jupiter, Florida 33477

## SCHEDULES

### SCHEDULE 1

#### PATENTS AND PATENT APPLICATIONS

PROVIDED SEPARATELY ON ELECTRONIC DRIVE

Feb 23rd, 2017update	PPL Docket #	L&G Docket #	Application #	Country	Title
	PPL- 002	576691	PCT/US2013/023545 WO2013116185		GAS TURBINE ENERGY STORAGE AND ENERGY SUPPLEMENTING SYSTEMS AND METHODS OF MAKING AND USING THE SAME (GSX - Gas Turbine, Storage, & Injection)
allowed, patent issued April. 3 sets of claims 1-4, 5-39, ... 40-46 tbd if we need to. Brian to send allowed claims and 3 sets of addl claims, 1800+2600+1800 if we want all 3. By march 8th abandoned		570436	No. 2013800113865.5	China	
pending, paid fees for all sets of claims follows china, will be an additional patent		570437	No. 13743900.6	Europe	
		570438	No. 2014-555618	Japan	
		571093		Hong Kong	

may 10th office  
action. Waiting for  
Mack response- will  
set up a call to  
address

570709

14/357,136

US

GAS TURBINE  
ENERGY STORAGE  
AND ENERGY  
SUPPLEMENTING  
SYSTEMS AND  
METHODS OF  
MAKING AND  
USING THE SAME  
(GSX - Gas Turbine,  
Storage, &  
Injection)

notice of allowance -  
Patent office  
suggested language  
that we accepted.  
"filtered and  
substantially ambient  
pressure air"  
issued 6039056

PPL-  
003

PCT/US2013/034748  
WO2013151909

COMPRESSED AIR  
INJECTION SYSTEM  
METHOD AND  
APPARATUS FOR  
GAS TURBINE  
ENGINES  
(TurboPHASE)

570439

14/350,469

US

570440

Japan

pending

570441

MX/a/2014/011923

Mexico

pending

570442

10-2014-7030376

South  
Korea  
United

pending - annuity  
due - pls pay

570443

1062/2014

Arab  
Emirates

pending

570444

Vietnam

61/686,222

PPL-  
004

PCT/US2013/063177  
WO2014055717

AERO BOOST - GAS  
TURBINE ENERGY  
SUPPLEMENTING  
SYSTEMS AND  
EFFICIENT INLET  
COOLING AND  
HEATING, AND  
METHODS OF



				MAKING AND USING THE SAME (TurboPHASE Aero)
issued 938873782	570445	14/419,853 61/744,822		provisional
	PPL- 005	PCT/US2013/065998 WO2014066276 61/795836	Prov	GAS TURBINE ENERGY SUPPLEMENTING SYSTEMS AND HEATING SYSTEMS, AND METHODS OF MAKING AND USING THE SAME (TurboPHASE Improvements I)
Issued	570446	14/351,245	US	
Office action replied to	570447		South Korea	
pending - no office action yet - expect any time now	570449		Brazil	
pending - no office action yet - expect any time now	570450		Chile	
2 office actions - replied already - nothing to do	570451		China	
pending - no office action yet - expect any time now	570452		Hong Kong	

pending - no office action yet - expect any time now 1 office actions - replied already - nothing to do	570453	India
pending - no office action yet - expect any time now	570454	Japan
pending - no office action yet - expect any time now	570455	Mexico
pending - no office action yet - expect any time now	570456	Nigeria
pending - no office action yet - expect any time now	570457	Oman
pending - no office action yet - expect any time now	570458	Russia
annuity fee due - pay pending - no office action yet - expect any time now -	570459	Saudi Arabia
pending - no office action yet - expect any time now	570460	Thailand
pending - no office action yet - expect any time now	570461	United Arab Emirates
pending - no office action yet - expect any time now	570462	Vietnam

PPL-  
006

FUELED ENGINE  
MOUNTING  
SYSTEM

received office action - rejection - due March 1st	PPL- 007	570463	14/329,340	US	Gas Turbine Efficiency and Regulation Speed Improvements Using Supplementary Air System Continuous and Storage Systems and Methods of Using the Same (TurboPHASE Improvements II)
		570464	PCT/US2015/22756 WO2015157012		
fee due - this would be first patent - Brian send as filed apps, bob make decision. Instructed Brian to pay fee 2/28 fee due - this would be first patent - Brian send as filed apps, bob make decision. Instructed Brian to pay fee 2/28		585421	1059/2016	United Arab Emirates	
		585422		Brazil	
		585423		Mexico	
		585424		Malaysia	
fee due - no don't pay		585425		Egypt	
fee due - yes pay it		585426		Saudi Arabia	
fee due - no don't pay		585998		Europe	
		585999		Eurasia	
		586005		India	
		585239		China	
office action received - rejection - Brian to send info	PPL- 008	570465	14/329,433	US	Gas Turbine Air Injection Control and Method of Operation (TurboPHASE

					Control Method)
fee due - do not pay		570466	PCT/US2015/22755		
fee - abandon		586001		Europe	
no fee due now		586002		India	
multiple patent restriction - awaiting office action	PPL- 009	570468	14/665,125	US	Gas Turbine Efficiency Improvements Using Supplemental Air System and Electrical Motor Generator (BlackOPS)
Office action - rejection. Need response from BOB. Closed with Hissan 2/27. Agreed to file claims he suggested and file an ammendment with Bobo proposed claims plus 2 new claims later	PPL- 010	570467	14/462,000	US	Compressed Air Injection System Method and Apparatus (TurboPHASE Broad)
awaitin office action - nothingto do	PPL- 011	570469	14/534,347	US	System and Method for Preheating Steam Lines Utilizing A Gas Turbine Engine (TurboSTEAM)
		570748	PCT/US2015/022753		

awaitin office action - nothingto do	<b>PPL-012</b>	570470	62/112263	US	Turbocooled Gas Turbine Vane (Turbocooled Vane) (Original ECO)
		575807	14/972,403	US	
		577200	PCT/US2016/012617	PCT	
awaitin office action - nothingto do office action received - Bob sent Brian claim recommendation, Brian going through now, Brian will recommend changes. Closed with Brian on call 2/28	<b>PPL-013</b>	570427	62/055,247	US	Compressor for Simultaneors Air Charging and Power Generation (FastLight)
		572798	14/855,963	US	
	<b>PPL-016</b>	570471	14/534,598	US	Gas Turbine Fast Regulation and Power Augmentation Using Stored Air (TurboPHASE Fast Air Start)
Expect allowance soon Added more system claims and PPL 38 method claims. Talked to examiner about rejection. Waiting patent office response. Expect allowance soon	<b>PPL-017</b>	570472	14/623,939	US	AERO BOOST - GAS TURBINE ENERGY SUPPLEMENTING SYSTEMS AND EFFICIENT INLET COOLING AND HEATING, AND METHODS OF MAKING AND USING THE SAME (TurboPHASE IBH)
Pending - no action required now	<b>PPL-019</b>	572039	62/207,209	US	System and Method for Deicing a Gas Turbine Engine
		583989	15/241,390	US	

583990 PCT/US2016/047701 PCT

Bob recommend file PCT - not in US	PPL- 020	570476	62/312,046	US	Coal Plant Supplementary Air And Exhaust Injection Systems
File PCT and US	PPL- 021	570475	62/309,694	US	
Keep for now	PPL- 022				
File US only - non provisional	PPL- 023	570473			
Pending - no action required now	PPL- 024	570479	62/263,057	US	Gas Turbine Firing Temperature Control with Air Injection System
Pending - no action required now		586619	PCT/US2016/064586	PCT	
		586623	15/367,525	US	
Pending - no action required now - Filed in US only	PPL- 025	570480	62/293,894	US	Gas turbine electrically driven supplementary air system for power augmentation and efficiency improvements
		588058	15/430,138	US	
Brian is drafting application- Bob sent app already	PPL- 026	570481			
File in US only - non provisional					

Pending - no action required now Pending - no action required now	PPL- 027	571196	62/201,031	US	Turbocooled Vane of a Gas Turbine Engine (Turbocooled Vane Improvements)
		575808	15/228815	US	
		582938	PCT/US2016/045487	PCT	
Pending - no action required now Pending - no action required now	PPL- 028	571457	14/799,913	US	Gas Turbine Efficiency and Power Augmentation Improvements Utilizing Heated Compressed Air and Steam Injection
		582469	PCT/US2016/038468		
Pending - no action required now No PCT to be filed	PPL- 029	572857	62/293,887	US	Electric Back-up System for Turbocooled Vane
		588449	15/430,121	US	
Bob to review draft application from Brian - Brian to resend	PPL- 030	578531			Gas turbine efficiency, power augmentation and NOx control and methods of using the same
Brian has write up - Brian working on it	PPL- 031	578532			Steam Driven TurboPHASE and combined system
ECO Patnets to be written	PPL- 032				ADDITIONAL TURBOCOOLED VANE DISCLOSURES

ECO Patnets to be written	PPL-033			ADDITIONAL TURBOCOOLED VANE DISCLOSURES
ECO Patnets to be written	PPL-034			ADDITIONAL TURBOCOOLED VANE DISCLOSURES
ECO Patnets to be written	PPL-035			ADDITIONAL TURBOCOOLED VANE DISCLOSURES
Relates to PPL 17 form PPL 4 - awaiting office action	PPL-038	582354	15/200,175	
Provisional Pending - Dec 9th , 2016 filed	PPL-039	584963		PAL Controls
Bob sent application to Brian, Brian working on - not yet filed	PPL-041	587010		Gas Turbine Air Extraction and Injection System and Method
Bob sent application to Brian, Brian working on - not yet filed	PPL-042	587008		Gas Turbine air delivery system for a first stage nozzle resulting in combined cycle efficiency improvement and methods of making and using the same
Bob sent application to Brian, Brian working on - not yet filed	PPL-043	587009		Gas Turbine shaft limit controls with air injection and methods of making and using the same



New application Bob  
and Team are  
currently writing

PPL-  
044

587009

ECO - constant  
combustion  
reaction --  
temperature.

**Legend**

US Provisional Application

US non-provisional Application

PCT Application

National Phase Filing (country)

Decision needed - Input required

## **SCHEDULE 2**

### **TRADEMARK REGISTRATIONS AND APPLICATIONS**

**POWERPHASE**

**TURBOPHASE**

**GENERATION SMART**



**SCHEDULE 3**

**COPYRIGHT REGISTRATIONS AND APPLICATIONS**

**N/A**