

PATENT ASSIGNMENT COVER SHEET

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|---|---|
| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| LAWRENCE SPADACCIA | 04/30/2019 |
| RECEIVING PARTY DATA | |
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| State/Country: | COLORADO |
| Postal Code: | 80525 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 16400821 |
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| ATTORNEY DOCKET NUMBER: | AE2018-034 |
| NAME OF SUBMITTER: | JANAE ALLABASTRO |
| SIGNATURE: | /Janae Allabastro for Gregory Durbin/ |
| DATE SIGNED: | 05/10/2019 |
| Total Attachments: 3 | |
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| source=AE2018-0034 Executed Assignment#page2.tif | |
| source=AE2018-0034 Executed Assignment#page3.tif | |

PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT:

Assignor/Inventor:

Name of Assignor: **Lawrence Spadaccia**
City and State of Residence: **Lockport, NY**

Assignee:

Advanced Energy Industries, Inc.
1625 Sharp Point Drive
Fort Collins, CO 80525

PATENT APPLICATIONS SUBJECT TO THE ASSIGNMENT (the "Applications"):

Nonprovisional Patent Application No.: **16/400,821**

Filing Date: **May 1, 2019**

Title: **VIRTUAL RESISTIVE LOAD IN FEEDBACK LOOP DRIVING A
PIEZOELECTRIC ACTUATOR**

Polsinelli Docket No. **068116-616116**

AE Reference No. **AE2018-034**

International Patent Application No.:

Filing Date:

Title: **VIRTUAL RESISTIVE LOAD IN FEEDBACK LOOP DRIVING A
PIEZOELECTRIC ACTUATOR**

Polsinelli Docket No. **068116-TBD**

AE Reference No. **AE2018-034WO**

Taiwan Patent Application No.:

Filing Date:

Title: **VIRTUAL RESISTIVE LOAD IN FEEDBACK LOOP DRIVING A
PIEZOELECTRIC ACTUATOR**

Polsinelli Docket No. **068116-TBD**

AE Reference No. **AE2018-034TW**

WHEREAS, the Assignor identified above has invented certain new and useful inventions for which the Application for Letters Patent identified above has been prepared for filing with the United States Patent and Trademark Office.

NOW THEREFORE, for good and valuable consideration, including at least \$1.00 received in the course of employment with the Assignee, the receipt and sufficiency of which is acknowledged, Assignor has agreed to assign and transfer and does hereby assign and transfer unto the Assignee and its successors and assigns, the entire right, title, and interest in and to

the Applications and the invention set forth in the Applications, including any improvements to the invention, and any and all Letters Patent that may be granted upon the information which is disclosed in the Applications including any provisional, non-provisional utility, design, continuation, continuation-in-part, divisional, international, foreign, regional and convention applications corresponding thereto, and any and all Letters Patent of the United States and countries and regions foreign thereto which may grant or have granted thereto or be lodged in relation thereto, any reissue or reexamination thereof or to be obtained therefor, any renewals, or substitutes thereof, and in and to any and all priority rights or priority claims, International Convention rights, rights to apply for Letters Patent, Utility Models, Inventors' Certificates, any and all rights to collect past damages for infringement of any and all Letters Patent of the United States and countries and regions foreign thereto which may be published, which may grant, or have granted thereto or be lodged in relation thereto, and other benefits accruing to or to accrue to Assignor with respect to the filing of applications for patents or securing of patents in the United States and countries and regions foreign thereto (the "Assigned Patent Rights");

In furtherance of said consideration:

Assignor authorizes and empowers the Assignee, its successors, assigns and legal representatives and nominees, to invoke and claim for any application for patent or other forms of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Intellectual Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from us.

Assignor hereby consents that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of the said Assignee or nominee to claim the aforesaid benefit of the right of priority by the International convention which may henceforth be substituted for it;

Assignor further agrees for Assignor and for Assignor's heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as deemed necessary by said Assignee, its successors, assigns, and nominees, fully to secure its right, title, and interest in the Assigned Patent Rights as aforesaid and to otherwise obtain or maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries;

Assignor hereby authorizes Assignee, its successors and assigns, or anyone it may properly designate, to insert in this instrument the title, application number and filing date of the Applications once known;

Assignor hereby acknowledges that Assignee's internal and external counsel have represented only Assignee and will continue to represent only Assignee;

Assignor hereby acknowledges an obligation of assignment and transfer of this invention and Applications to Assignee at the time the invention was made;

Assignor represents and warrants that Assignor has the right, title, and authority to execute this Assignment and to convey any and all right, title, and interest in the assigned Patent Rights, and that Assignor has not conveyed nor will convey hereafter all or part of the Assigned Patent Rights to a third party; and

Assignor hereby authorizes and requests the Commissioner of Patents to issue any and all Letters Patent which may be granted upon said Applications, to said Assignee, as the assignee of the entire right, title, and interest therein.

IN WITNESS WHEREOF, the Assignor hereunto has executed this assignment upon the date indicated below.

Dated: APRIL 30, 2019

By: Lawrence Spadaccia
Lawrence Spadaccia

ACCEPTANCE OF ASSIGNMENT

The Assignee hereby acknowledges and accepts the foregoing assignment of rights by Assignor.

Date: April 30, 2019

By:

Steve Mason
Steve Mason, Assistant General Counsel,
duly authorized for and on behalf of
Advanced Energy Industries, Inc.