



Memorandum of Understanding

Agreement #132876

This **MEMORANDUM OF UNDERSTANDING** (the “MOU”) is entered into as of this October, 25, 2011 (the “Effective Date”), by and between American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (“ASHRAE”) with its principal office at 1791 Tullie Circle, NE, Atlanta, Georgia, and The Pennsylvania State University (“PSU”) a corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania, with its principal office at 110 Technology Center Building, University Park, Pennsylvania, 16802-7000. ASHRAE and PSU are referred to each as the “Party” and collectively as the “Parties.”

WITNESSETH

WHEREAS, ASHRAE is an international organization headquartered in Atlanta, GA whose mission is to advance the arts and sciences of heating, ventilation, air-conditioning and refrigeration (HVAC&R) to serve humanity and promote a sustainable world; and

WHEREAS, PSU is a lead institution representing the Greater Philadelphia Innovation Cluster (“GPIC Project”) for Energy Efficient Buildings, a 22-member consortium that has been designated as an Energy Innovation Hub of the U.S. Department of Energy (DOE) located at the Navy Yard in Philadelphia, PA. Its major goals are to improve energy efficiency and operability and reduce carbon emissions of new and existing buildings, focusing on full spectrum retrofit of existing average size commercial and multi-family residential buildings and to create quality jobs related to the building design, construction, and operation industry; and

WHEREAS, ASHRAE and PSU are committed to cooperatively work together to pursue achieving common objectives as described in the GPIC Project as described in Appendix A (attached).

NOW THEREFORE, in consideration of the mutual premises and covenants contained herein, the Parties agree as follows:

Purpose of this MOU

The purpose of this MOU is to state the present understanding and intention of the Parties in good faith to cooperate in connection with the GPIC Project. The Parties agree to combine their unique capabilities and to cooperate with each other to pursue the mutual goals in relation to the GPIC Project. The Parties agree to work together for the purpose of successfully carrying out energy efficiency demonstration projects in Penn State and GPIC Sites at the Navy Yard in Philadelphia, and further long term collaboration in the area of energy efficiency.

1. Costs and Expenses

Each Party shall bear its own costs and expenses arising out of or in relation to the

performance of its obligations hereunder, except as otherwise expressly provided herein.

2. Confidentiality

Both Parties shall keep in confidence, and shall bind its employees and agents to keep in confidence to a reasonable degree of care all Confidential Information including, but not limited to, materials, written information, and data marked "Confidential" or non-written information and data disclosed which is identified at the time of disclosure as confidential and is reduced to writing and transmitted to the other party within sixty (60) days of such non-written disclosure (the "Confidential Information") of the other Party acquired in connection with this MOU. Neither Party shall have the right to use any Confidential Information of the other Party for any purpose other than as contemplated in this MOU. The obligation stipulated in this Article 2 shall not apply to any Confidential Information which:

- a. At the time of disclosure is already in the public domain;
- b. After disclosure becomes part of the public domain through no fault of the receiving Party;
- c. Has been developed independently by the receiving Party without use of or reference to any of Confidential Information or any derivative thereof; or
- d. Has been lawfully acquired from a third party having the right to disclose it.

3. Publicity

The Parties agree to collaborate on all forms of publicity in a timely fashion. No news release, advertisement, or publicity shall be made concerning the Parties' cooperation under this MOU, without the prior written consent of both Parties.

4. Term and Termination

- 4.1. This MOU shall commence on the Effective Date and shall continue through January 31, 2016, unless terminated earlier in accordance with this MOU;
- 4.2. Either Party shall have the right to terminate this MOU by providing thirty (30) day written notice to the other Party.

5. Governing Law

This MOU shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.

6. Non-Binding

The Parties acknowledge and agree this MOU imposes no binding obligation on either Party.

7. Amendment

This MOU and any portion thereof shall not be modified, amended, cancelled or altered in any way, except by an instrument in writing signed by both Parties.

8. Assignment

No Party may assign or transfer any of its rights, interests or obligations hereunder without the prior written consent of the other Party.

9. No Partnership or Agency

Nothing in this MOU shall be construed as creating a joint venture, partnership, agency, employment relationship, franchise relationship or taxable entity between the Parties, and neither Party shall have the right, power or authority to create any obligation or duty, express or implied, on behalf of the other Party, it being understood that the Parties are independent contractors vis-a-vis one another.

10. Severability

If any material condition or provision contained herein is held to be invalid, void or otherwise unenforceable by a final judgment of any court of competent jurisdiction, then the remaining provisions of this MOU shall remain in full force and effect.

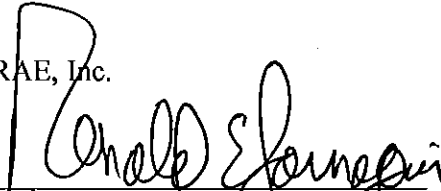
11. Survival

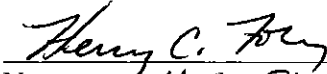
Notwithstanding any other provision to the contrary herein, Article 2 shall survive any termination of this MOU.

12. Entire Agreement

This MOU constitutes the full and complete understanding between the Parties and supersedes any and all prior and contemporaneous written and oral agreements concerning the subject matter contained herein.

IN WITNESS WHEREOF, the Parties executed this MOU as of the Effective Date.

ASHRAE, Inc.

Name: DONALD E. JAPARD
Title: SOCIETY PRESIDENT
Date: 10/26/2011

The Pennsylvania State University

Name: Henry C. Foley
Title: V. P. for Research
Date: 10 26 11

Appendix A

PSU and ASHRAE will seek to collaborate under this MOU including but not limited to the following:

Research: ASHRAE and PSU both conduct research intended to improve the energy efficiency and reduce the environmental impact of buildings while maintaining good Indoor Environmental Quality (IEQ). Research collaborations will be fostered by,

- ASHRAE adding a PSU-appointed non-voting liaison to its Research Administration Committee to identify opportunities for cooperation.
- An ASHRAE representative appointed by the ASHRAE President will serve on the GPIC Advisory Board.
- PSU will work with DOE through the GPIC Project to create opportunities through which cooperative research with ASHRAE may be pursued.
- ASHRAE will initiate formation of an internal multi-disciplinary task group (MTG) through which opportunities for cooperative research with PSU will be pursued.

Education: As a leading provider of professional development programs, ASHRAE will work with PSU to pursue the development of courses based on needs identified and knowledge created through the GPIC Project research program. ASHRAE will work with PSU to identify needs for educational materials and help initiate their development.

Communication: PSU and ASHRAE leadership representatives will periodically meet to discuss opportunities for collaboration.

Certification: ASHRAE is a provider of high quality, respected certification programs for a growing number of HVAC&R specialties. PSU will explore the potential of existing ASHRAE certifications to support its objectives and ASHRAE will consider development of new certifications to meet needs for types of credentialed practitioners identified by the GPIC Project.

Standards and Guidelines: ASHRAE is an ANSI Standards Development Organization which maintains numerous standards and guidelines related to the energy efficient design, construction, and operation of buildings, including Standard 90.1 *Energy Standard for Buildings Except Low-Rise Residential Buildings*, Standard 100 *Energy Conservation in Existing Buildings*, and others relevant to design for energy efficiency, quality assurance, and measurement and verification. PSU will pursue applying these standards and guidelines to buildings at the Navy Yard in collaboration with ASHRAE and explore providing feedback that may improve their effectiveness and increase their acceptance in the marketplace.

Building Energy Labeling: An important focus of GPIC Project is metrics for describing building performance. ASHRAE is nearing completion of the development of a new building energy labeling program called Building Energy Quotient (bEQ) that provides a rating for both a building as it is designed and as it is operated.

- In collaboration with ASHRAE, PSU will pursue obtaining as-designed and in-operation bEQ ratings for buildings under its control at the Navy Yard and in the greater

Philadelphia area and provide data and feedback to ASHRAE to enable them to improve BEQ and the BEQ process. ASHRAE will waive administrative fees for ratings.

- ASHRAE and PSU will pursue collaborative projects that address technology development and training needed to enable implementation and support of BEQ.

Publications: ASHRAE is a major construction industry publisher, with publications including the ASHRAE Handbook, design guides including the *Advanced Energy Design Guide* series developed in collaboration with the Department of Energy, ASHRAE Journal, High Performing Buildings magazine, and the International Journal of HVAC&R Research. ASHRAE has the ability to provide multiple vehicles for effective communication of GPIC Project research.

Conferences: ASHRAE holds two annual conferences that include extensive technical programs. ASHRAE and PSU will work together to help organize technical sessions, short courses, and other events at meetings that serve to promote their shared objectives. In addition, ASHRAE organizes specialty conferences such as the triennial IAQ Conference and other one-time meetings on topics of high current interest. ASHRAE and PSU will explore opportunities to organize specialty conferences addressing topics of mutual interest.

Advocacy: The GPIC Project includes a public policy focus and ASHRAE maintains a Government Affairs staff in Washington DC to support interactions with government and government-related organizations. ASHRAE and PSU will maintain ongoing communications about policy issues and, whenever possible, provide a consistent, mutually supportive message to policymakers.