



**MEMORANDUM OF UNDERSTANDING**  
**Between the**  
**National Institute of Standards and Technology**  
**(U.S. Department of Commerce)**  
**and**  
**ASHRAE**

The National Institute of Standards and Technology (NIST), which is part of the U.S. Department of Commerce, and ASHRAE agree to work cooperatively to improve heating, ventilating, air-conditioning, and refrigeration technologies and their application. Cooperation will focus on the following key areas:

- Improving building performance and cost effectiveness, including through increases in energy and water efficiency and storage technologies, and the health, well-being, and productivity of building occupants
- Improving interoperability of building systems as well as building integration with the electric grid
- Supporting innovation and standards development
- Strengthening resiliency of the built environment
- Bolstering cybersecurity of HVAC&R infrastructure

Founded in 1894, ASHRAE, a non-profit 501(c)(3) corporation, is a professional and technical society that serves humanity by advancing the arts and sciences of heating, ventilation, air-conditioning, refrigeration and their allied fields. ASHRAE's more than 57,000 individual members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow's built environment today, and collaborates with many organizations throughout the HVAC&R industry.

Founded in 1901, NIST is one of the oldest physical science laboratories in the United States, which was established by Congress to remove major challenges to U.S. industrial competitiveness. NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life. NIST staff have long been involved in ASHRAE, including participation in the development of many ASHRAE standards, serving on numerous technical committees and sharing many of its research results in ASHRAE publications.

ASHRAE and NIST are committed to work together toward on the following activities and goals:

1. Work within the building community to encourage the interoperability of building related technology and integrated solutions among designer, manufacturers, contractors, and building owners and operators to improve building and grid resilience, increase energy and water efficiency, and improve health, and productivity in buildings.
2. Encourage the continued development of voluntary consensus-based standards, and their deployment, adoption, and use, including through improved communication on the benefits of standards through economic valuation and other metrics.
3. Advance the professional development of NIST personnel by facilitating membership, attendance and active participation at the local and Society levels of ASHRAE, especially as members of Technical Committees and Standard Project Committees.
4. Promote public-private partnerships and technology transfer to the building industry over the wide range of research and innovative standards and technology that can improve building performance, resiliency of the built environment, sustainability, and cyber-security.
5. Identify research areas of mutual interest and collaborate as appropriate to advance key goals of both organizations.
6. In support of efforts to populate and increase diversity of the pipeline of the next generation of technicians and engineers in the buildings industry, explore opportunities to place interns and research fellows in NIST laboratories.

## **LEGAL STANDING**

This MOU in no way restricts or compels either of the parties from participating in any activity with other public or private agencies, organizations or individuals.

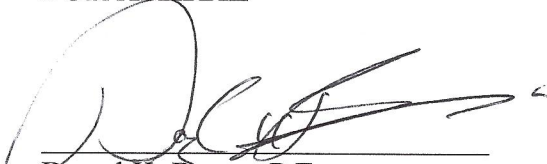
This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value. The words “encourage,” “support,” and “cooperate” do not imply any material or financial assistance, transaction, or obligation by either party.

This MOU is not legally enforceable and shall not be construed to create any legal obligation on the part of either party. This MOU shall not be construed to provide a private right or cause of action for or by any person or entity.

This MOU is subject to, and will be carried out in compliance with, all applicable laws, regulations and other legal requirements.

The MOU will become effective upon signature for NIST by the NIST Director and the Director of the NIST Engineering Laboratory and for ASHRAE by the President and Executive Vice President of ASHRAE. It may be modified or amended by written agreement between both parties, and such amendments shall become part of, and shall be attached to this MOU. This MOU shall terminate at the end of three (3) years unless revised or extended at that time by written agreement of the parties. It may be terminated at any time by either party upon 90 days written notice to the other. Its provisions will be reviewed periodically and amended/supplemented if mutually agreed upon in writing.

**FOR ASHRAE**



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Darryl K. Boyce, P.E.  
President

Nov. 4, 2019  
Date


**FOR NIST**



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Dr. Walter G. Copan  
Director and Under Secretary of Commerce  
for Standards and Technology

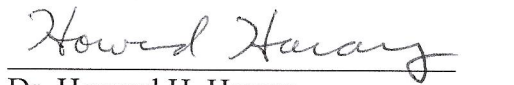
11-4-2019  
Date



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Jeff H. Littleton  
Executive Vice President

Nov 4, 2019  
Date



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Dr. Howard H. Harary  
Director of the Engineering Laboratory

11/4/19  
Date