

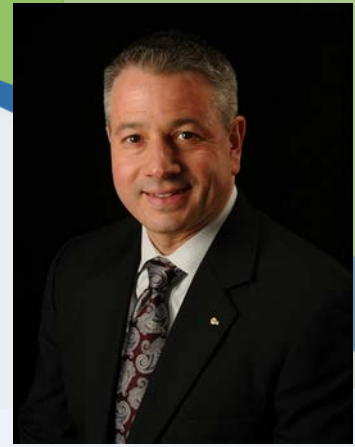
BUILDING EFFICIENCY



William F. McQuade, P.E., LEED AP, FASHRAE

Director of Technology, Energy Efficiency, and the Environment

Chiller Solutions Line of Business
Johnson Controls Corporation, Inc.



Bill McQuade is Director of Technology, Energy Efficiency and the Environment for Johnson Controls Corporation. He has spent the past 22+ years working for the York International/Johnson Controls organizations in various technical and managerial positions ranging from Research Engineer in the Advance Engineering group to senior management positions related to the strategic application of advanced technology and R&D efforts.

He has a BSME, MSME, and MBA from Penn State University. During his graduate studies in the early 90s, Bill performed fundamental research in to the performance characteristics of HCFC and HFC alternatives to CFCs in Air-Conditioning equipment. While working at York/Johnson Controls, he has been awarded 8 US and International patents related to chiller design, oil separation, and chiller controls algorithms, and has 2 more pending.

Bill's industry affiliations include ASME, ASNE and ASHRAE. In the ASHRAE Organization, he is currently on the Board of Directors and has served on various Councils and Committees at the Society level. He is a past Chair of the Technical Activities Committee (TAC), the Technical Committee on Climate Change, and the Technical Committee on Centrifugal Chillers. Currently he serves on the Society's Publication and Education Council, the Professional Development Committee, the Historical Committee, and the Grassroots Government Advocacy Committee. In 2012, Bill was honored by being elevated to the grade of ASHRAE Fellow at the age of 43. And has received the Distinguished Service Award in 2012.

He also serves as the JCI representative on many AHRI committees including: International Committee, Certifications Process and Procedures (CP&P) Committee, Liquid Chiller Section (past Chair), the Compliance Committee, and is currently the Chairman of the Government Affairs Committee. He received the Richard C. Schulze award for Distinguished Service in 2014. In addition, he is also a member in AHRI's System Efficiency Working Group. Finally, he is a member of the Board of Directors for the Alliance for Responsible Atmospheric policy, currently serving as Vice Chairman.

He has participated in various international climate and ozone meetings, and has provided input to the US, EC, and Chinese governments regarding ozone and climate regulation and legislation. He was selected by the US Department of State and US EPA to serve as an industry representative on the Indo-US Taskforce on HFCs. Also, he has served as an expert on the US Department of Energy HVAC Roadmap Collaboration Team (Oak Ridge National Lab). Finally, he has been invited to speak as an expert on Low GWP refrigerants at various World Bank, United Nations (UNEP) and HVAC&R industry technical meetings.



JOHNSONCONTROLS.COM

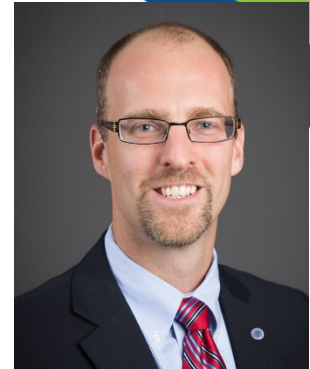
BUILDING EFFICIENCY



Brian S. Smith

Director, Global Marketing

Chiller Solutions Line of Business
Johnson Controls Corporation, Inc.



Brian Smith is Director of Global Marketing for Johnson Controls Corporation. He has spent the past 20 years working for York International/Johnson Controls organizations in various technical and leadership positions in the USA and China ranging from Applications Engineer, Product Management, Industrial Engineering, Product Development, Project and Program Management, Strategy, Business Development and Marketing.

Brian has a Bachelor's of Science in Engineering Science and Mechanics from Penn State University, and an MBA in Management from Eastern University.

His involvement within the refrigerant industry includes writing and editing articles in various media, and leading the development of refrigerant strategy. He has attended workshops and symposiums on refrigerants in the USA, Japan and China, including the U.S. EPA, DOE and JRAIA.

He has led an advisory panel of product experts on refrigerants from across the Johnson Controls Building Efficiency organization and develops marketing programs for the Johnson Controls chiller business worldwide.

Brian's industry affiliations include involvement in local chapters of ASHRAE, and is currently the editor of the ASHRAE Handbook Committee on Climate Change for Technical Committee 2.5. In the past he has been actively involved in the International District Energy Association and has spoken at many industry events around the world on the topics of energy efficiency, chillers, heat pumps and refrigerants.



JOHNSONCONTROLS.COM