FOREWORD

Concern about the environment and the future of our planet has become the focal point of everyday conversation, political debate, and media coverage in the United States. Where this debate has been focused on the industrial, manufacturing, and transportation sectors in the past, energy usage and its associated environmental impacts have become a major issue in the building industry. Commercial and residential buildings consume about 40 percent of the energy used in the United States according to the U.S. Department of Energy's Energy Information Agency and both the amount of energy used in buildings and its percentage of the total United States' annual energy usage is expected to increase. As a result, more and more building owners including all levels of government are demanding high performance buildings and are seeking third-party certification to verify and publicly recognize their commitment to the environment. All of this has put the construction industry in a reactive mode as it adjusts to the new technical and administrative requirements that are being imposed by the project contract documents and third-party certification requirements. However, green construction doesn't have to be just another contract requirement that the HVAC contracting firm must address. Instead, the HVAC contracting firm can embrace the principles of green construction and become proactive which is not only good for the environment but also good for business.

The purpose of this guide is to introduce HVAC contracting firm personnel to green building construction and provide information that will help the HVAC contracting firm successfully bid green building construction projects. The HVAC system is a key element in any green building project because it has a significant impact on the building's energy usage and operating costs as well as the well being of the building occupants on a daily basis. When bidding a green building project the HVAC contracting firm needs to be aware of the additional requirements that it will be subject to during design if the project is design build, construction, commissioning, closeout, and the warranty period.

To make this guide easy to use, it has been formatted in a question and answer format and divided into the following twelve sections and one appendix.

- Section 1.0 introduces green buildings and construction.
- Section 2.0 discusses what it means to be a green HVAC contracting firm and things that the HVAC contracting firm and its employees can do to help the environment both in the home office and on the jobsite.
- Section 3.0 covers green building requirements with the focus being on the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED™) green building rating systems.
- Section 4.0 discusses training for the HVAC contracting firm's office and field employees in green building construction and rating systems.
- Section 5.0 covers bidding green building construction and what the HVAC contracting firm needs to be aware of in bidding green building projects.

- Section 6.0 discusses how a green design-build building project differs from a conventional design-bid-build project and things that the HVAC contracting firm should consider when submitting a proposal for a green design-build building project.
- Section 7.0 covers what the HVAC contracting firm should look for in a green contract.
- Section 8.0 introduces green building product requirements
- Section 9.0 discusses possible impacts that a green building project will have on the HVAC contracting firm's fabrication shop operation.
- Section 10.0 covers the impact of green building requirements on field operations and productivity.
- Section 11.0 introduces green building commissioning and closeout requirements that the HVAC contracting firm may encounter on green building projects.
- Section 12.0 discusses how the HVAC contracting firm can market its green building expertise.

An appendix provides a listing of references used in preparing this guide as well as additional information that might be useful to the HVAC contracting firm entering the green building construction market.