

## FOREWORD

With the introduction of the total quality management (TQM) concept and the extension of that process into the construction industry, the term commissioning has evolved to represent the TQM process in the construction trades. Commissioning includes the final act of verifying compliance with project specifications. It also includes demonstrating and verifying system and subsystem operational performance and is a detailed documentation of building systems and components to be used by building management throughout the life of the building. While the concept of commissioning applies to all components of a structure, this manual focuses on the HVAC systems and the parties responsible for the proper design and installation of these systems.

In terms of operating costs, HVAC systems—in virtually any building—are one of the most energy intensive. Additionally, HVAC systems can be the source of indoor air quality (IAQ) problems but can also be the vehicle to the solution of those problems. Poorly designed, improperly installed, or inadequately maintained systems can cause high operating costs and occupant discomfort, affecting the long term financial viability of a building. The purpose of this manual is to introduce the contractor to the commissioning process and to give the contractor an understanding of the skills and expertise required to apply the concepts to the construction process. Contractors who understand the process will be in position to offer this service to building owners and designers.

The SMACNA Building Services Committee has decided to introduce the commissioning process as a multi-level concept applicable to projects large and small, simple and complex. The manual treats the subject in sufficient detail to provide a professionally run organization, with a commitment to the TQM process, with the expertise to direct the activities of a commissioning team. We have also introduced the concept of re-commissioning to emphasize that the commissioning process applies to both the new construction and the renovation and retrofit markets.

The manual includes a sample specification and a sample commissioning report. Also included are samples of commissioning checklists for a wide variety of HVAC systems and components. Although these checklists are comprehensive, they are intended as guidelines. Forms actually used in the commissioning process are generally customized for the equipment and systems involved and usually reflect the requirements of the commissioning authority.

SMACNA recognizes that this manual might be expanded and updated in the future. Continuing effort will be made to provide the industry with the latest methods and engineering data from recognized sources, supplemented by SMACNA research and the services of local SMACNA chapters and contractors.

