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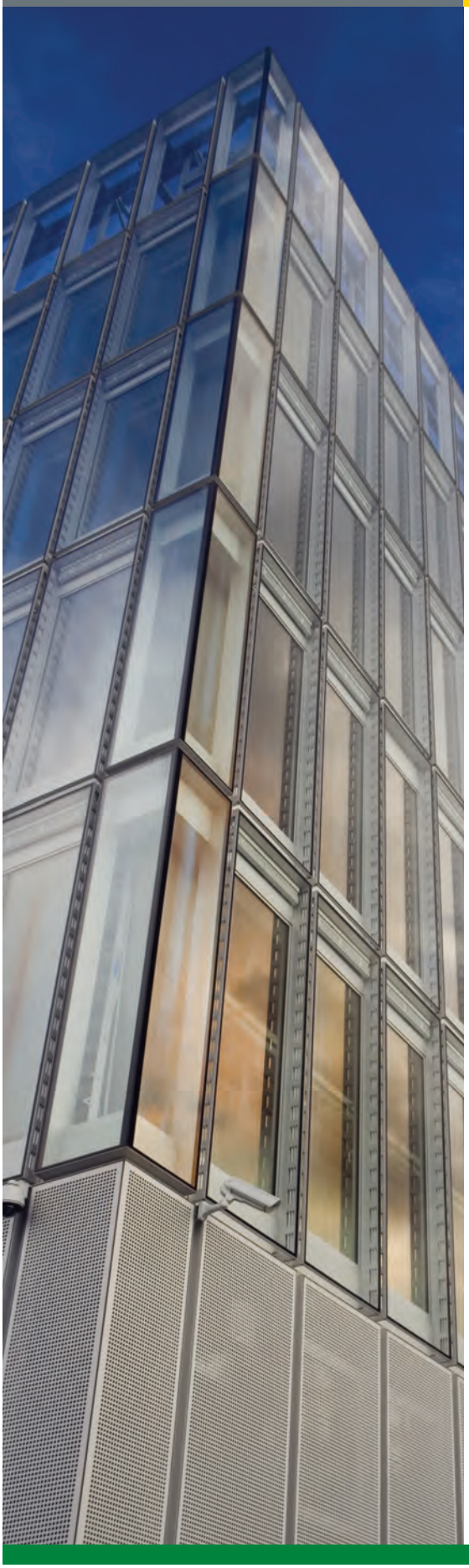
FEDERAL ENERGY MANAGEMENT PROGRAM



Release 3.0

Operations & Maintenance Best Practices

A Guide to Achieving *Operational Efficiency*

August 2010

FEMP
Federal Energy Management Program

Release 3.0

Operations & Maintenance

Best Practices

A Guide to Achieving *Operational Efficiency*

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Disclaimer

Preface

This Operations and Maintenance (O&M) Best Practices Guide was developed under the direction of the U.S. Department of Energy's Federal Energy Management Program (FEMP). The mission of FEMP is to facilitate the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship. Each of these activities is directly related to achieving requirements set forth in:

- The *Energy Policy Act of 2005*, which established a number of energy and water management goals for Federal facilities and fleets and also amended portions of the National Energy Conservation Policy Act (NECPA).
- Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (signed in January 2007). This set more challenging goals than EPAct 2005 and superseded existing executive orders 13123 and 13149.
- The *Energy Independence and Security Act of 2007*, which further established energy, water, and building commissioning management goals and requirements and also amended portions of EPAct 2005 and NECPA. EISA was signed into law in December 2007.
- Executive Order 13514, *Federal Leadership in Environmental, Energy and Economic Performance* (signed in October of 2009) directs Federal agencies to further address energy, water, and operational efficiency beyond E.O. 13423 with targeted goals and actions.

Release 3.0 of this guide provides updates to Release 2.0 in the areas of O&M technologies, equipment performance, and costs. This new release also addresses water use and the impacts that recommended O&M practices can have on water efficiency.

Overall, this guide highlights O&M programs targeting energy and water efficiency that are estimated to save 5% to 20% on energy bills without a significant capital investment. Depending on the Federal site, these savings can represent thousands to hundreds-of-thousands dollars each year, and many can be achieved with minimal cash outlays. In addition to energy/resource savings, a well-run O&M program will:

- Increase the safety of all staff, as properly maintained equipment is safer equipment.
- Ensure the comfort, health, and safety of building occupants through properly functioning equipment providing a healthy indoor environment.
- Confirm the design life expectancy of equipment is achieved.
- Facilitate the compliance with the above-mentioned Acts and Orders as well as Federal legislation such as the *Clean Air Act* and the *Clean Water Act*, as well as expected carbon mitigation legislation.

The focus of this guide is to provide the Federal O&M/Energy manager and practitioner with information and actions aimed at achieving these savings and benefits.

Acknowledgments

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Contents

Figures

Tables

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