

PILOT PROGRAM STEERING COMMITTEE ROLES AND RESPONSIBILITIES

The primary work of the steering committee is to provide guidance, direction and metrics for measuring the success of the Demonstration Program on Reduction in Long-Term Facility Operating, Maintenance and Energy Costs. This program was authorized under the National Defense Authorization Act For Fiscal Year 2002, Section 2813 and as modified by Section 2813 in the 2003 Act. The purpose of the pilot program is to demonstrate how to plan and contract military construction projects to ensure that the facility systems and equipment continue to perform efficiently, optimally, and achieve maximum service life. The pilot program will document how these new business approaches preserve the capital investment and reduce the long-term facility maintenance costs. The pilot program will explore where and how the most value can be achieved for the MILCON dollars invested in O&M during the first years of occupancy.

Traditional operation and maintenance in commercial buildings involves either an intentional O&M program with one or more types of maintenance plans or no O&M program at all. In the second case, owners repair and replace equipment when it breaks down. In either case, the owner, users, and maintainers of the building equipment too often focus on maintenance and repair issues, without paying sufficient attention to how and when equipment operates. With limited O&M budgets, military installations often defer maintenance on new buildings in favor of fixing older buildings. The lack of O&M in the early years accelerate the decline of the overall condition of a new facility as well as dramatically shorten the service life of expensive equipment and systems within that facility.

The goal of the pilot program is to optimize the O&M of each facility in the program. Optimizing facility operation can provide significant energy savings, comfort benefits and extend service life thus achieving overall savings in life cycle cost. Preventive operation is a risk reduction strategy to help ensure that equipment runs efficiently, functions properly, and does not fail prematurely. A good program can even lengthen the normal life expectancy of equipment. A sound operation and maintenance program for a facility not only includes maintenance plans and activities but also emphasizes operating equipment in the most energy-efficient manner. Preventive O&M plans differ from typical preventive maintenance plans in that they call for periodically checking operational and control issues. These periodic checks also investigate issues that affect efficiency.

Poor maintenance adversely affects operational performance; likewise, poor operation practices can increase the amount of maintenance required to keep equipment running. The best preventive maintenance programs will include activities that optimize operation. Although some traditional PM tasks such as checking calibrations and cleaning heat exchangers certainly affect operation, many additional opportunities exist to optimize equipment. For example, just as staff perform certain maintenance tasks to prepare equipment for heating or cooling season, they should also review and adjust operation

strategies seasonally. A good control strategy for cooling season is not necessarily optimal for “swing” season or heating season.

The goal of the steering committee is to track the success of the O&M Demonstration Program over time. The section below describes proposed steps to measure and verify the performance of facilities, related equipment and systems over time. The final product of this effort is a report that shall be submitted to congress not later than January 31, 2005. The report shall provide an evaluation of the demonstration program with recommendations.

1. Building performance
 - a. Energy usage
 - b. Economics
 - c. Health, indoor air quality mold mildew problems
 - d. Safety
 - e. Occupant comfort number of complaints
 - f. Sustainability
2. Track design
 - a. Development and update of criteria
 - b. How will HNC and SAS monitor
 - c. Maintain lessons learned system
 - i. Maintained by HNC
 - ii. Available on web-site
 - d. Does the design include a building diagnostic system
3. Track construction
 - a. Benchmark quality to facilities not in pilot program
 - b. Cost of construction
 - c. Initial cost of O&M
4. Track commissioning (Cx)
 - a. Initial construction Cx
 - b. Continuous Cx to maintain building optimum performance
5. Monitoring/feedback of actual building performance over time
 - a. Whole building and primary system energy metrics
 - i. Energy cost per unit floor area
 - ii. Lighting power densities
 - iii. Occupant profiles
 - iv. Component performance
 1. Chillers
 2. Boilers
 3. Fans
 4. Thermal loads
 - b. HVAC system component capacities
6. Monitor operations and maintenance
 - a. Final O&M costs
 - b. Compare to regional average
 - c. Effectiveness of O&M practices

- d. Effect on equipment life
 - e. Annual interviews with building occupants
 - f. Comfort improvements
 - g. Compare condition of equipment and building systems at the end of the program to similar facilities not in pilot program
7. Document changes of building use, occupancy, equipment and renovation
- a. Affects on O&M costs
 - b. Affects on energy costs
 - c. How were O&M procedures affected/modified

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