

LEED® 2009 FOR EXISTING BUILDINGS OPERATIONS AND MAINTENANCE (LEED®-EB)



As described by the USGBC®, “LEED® for Existing Buildings [Operations and Maintenance] helps maximize the efficiency of building operations while minimizing the impact on the environment.



The LEED® 2009 rating system encourages owners and operators of existing buildings to implement sustainable practices and reduce the environmental impacts of their buildings, while addressing the major aspects of ongoing building operations. All buildings (as defined by standard building codes) are eligible for certification under LEED for Existing Buildings.”¹

The 2009 rating system is prefaced by the U.S. Green Building Council (USGBC®) thus, “The built environment has a profound impact on our natural environment, economy, health, and productivity. Breakthroughs in building science, technology, and operations are now available to designers, builders, operators, and owners who want to build green and maximize both economic and environmental performance.

Through the LEED® green building certification program, the USGBC® is transforming the built environment. The green building movement offers an unprecedented opportunity to respond to the most important challenges of our time, including global climate change, dependence on non-sustainable and expensive sources of energy, and threats to human health. The work of innovative building professionals is a fundamental driving force in the green building moment. Such leadership is a critical component to achieving USGBC’s mission of a sustainably built environment for all within a generation.”²

The simplicity, flexibility, and cost-effectiveness of the Reliable Controls® MACH-System provides excellent synergies with the requirements and intents of the 2009 LEED-EB program. The MACH-System empowers building operators to reclaim control of their buildings while facilitating long life-cycles and sustainable operation.

The following tables summarize a few of the benefits of the MACH-System for building owners pursuing LEED-EB certification and highlight ways to LEED® with Reliable Controls®.

The LEED® 2009 for Existing Buildings Operations and Maintenance rating system is divided into seven (7) categories; Sustainable Sites, Water Efficiency, Energy and Atmosphere, Indoor Environmental Quality, Materials and Resources, Innovation in Operations, and Regional Priority Credits.

LEED[®] 2009 FOR EXISTING BUILDINGS OPERATIONS AND MAINTENANCE (LEED[®]-EB)

Table 1 briefly summarizes some potential benefits of the Reliable Controls[®] MACH-System to the first four (4) categories when pursuing LEED[®]-EB 2009 certification.

Category	Item	Points	Benefits of the Reliable Controls [®] MACH-System
Sustainable Sites			
Credit 8	Light Pollution Reduction	1	Automated unoccupied lighting control & reporting.
Water Efficiency			
Credit 1	Water Performance Measurement	1-2	Water metering, sub-metering, trending & reporting.
Credit 3	Water Efficient Landscaping	1-5	Prevent/reduce irrigation based upon current weather and ambient environmental conditions.
Energy & Atmosphere			
Prereq 1	Energy Efficiency Best Management Practices-Planning, Documentation and Opportunity Assessment	Y	Promote continuity of information to ensure that energy-efficient operating strategies are maintained while providing a foundation for training and system analysis.
Prereq 2	Minimum Energy Efficiency Performance	Y	Measure, monitor and report energy consumption.
Credit 1	Optimize Energy Efficiency Performance	1-18	Monitor operating energy performance and reduce environmental and economic impacts associated with excessive energy use.
Credit 2.1	Existing Building Commissioning-Investigation and Analysis	2	Perform operational analysis and to facilitate no- or low-cost building performance improvements.
Credit 2.2	Existing Building Commissioning-Implementation	2	Implement no- or low-cost building performance improvements using control strategies.
Credit 2.3	Existing Building Commissioning-Ongoing Commissioning	2	Automated trending, reporting ³ and alarming empower ongoing operational monitoring and adjustment.
Credit 3.1	Performance Measurement-Building Automation System	1	BAS should be used to inform decisions regarding changes in building operations and energy-saving investments.
Credit 3.2	Performance Measurement-System-Level Metering	1-2	Perform the requisite continuous system-level and ECM energy metering, trending and reporting.
Indoor Environmental Quality			
Credit 1.2	Indoor Air Quality Best Management Practices-Outdoor Air Delivery Monitoring	1	Use the BAS to perform the required continuous and permanent measurement, monitoring, reporting and alarming of outdoor airflow or space CO ₂ .
Credit 2.1	Occupant Comfort-Occupant Survey	1	Use the MPW to provide a thin-client, web-based, anonymous occupant survey and compile results.
Credit 2.2	Controllability of Systems-Lighting	1	Use the BAS to deliver integrated or integral lighting control.
Credit 2.3	Occupant Comfort-Thermal Comfort Monitoring	1	A proper DDC system intrinsically delivers continuous monitoring and optimization of thermal comfort control.

TABLE 1: LEED-EB 2009 CREDIT CHECKLIST AND BENEFITS OF THE MACH-SYSTEM

LEED[®] 2009 FOR EXISTING BUILDINGS OPERATIONS AND MAINTENANCE (LEED[®]-EB)

Innovation in Operation credits provide building operations, maintenance and upgrade teams with the opportunity to achieve additional environmental benefits beyond those already addressed by the LEED[®] 2009 for Existing Buildings Operations & Maintenance rating system. Innovation in Operation credits can be achieved through any combination of the outlined prescriptive compliance paths including Innovation, Exemplary Performance, and Pilot Credits¹.

Table 2 highlights a few potential tactics that could leverage the Reliable Controls[®] MACH-System to help earn credits in this category.

Category	Item	Points	Benefits of the Reliable Controls [®] MACH-System
Innovation in Operations			
Credit 1	Exemplary Performance	1-4	Provide innovative solutions such as automated maintenance notification, dashboard kiosks to facilitate green building/environmental impact education, individual occupant control to improve total controllability (myControl™), etc.
	Exemplary Performance	1-4	The flexibility and free-programmability of the MACH-System™ make it ideal for ongoing aggressive energy savings and creative demand response and control applications.
EApC 8	Pilot Credit - Demand response		Use the BAS to implement automated demand-response and load-shedding

TABLE 2: LEED-EB 2009 BENEFITS OF THE MACH-SYSTEM™ TO INNOVATION IN OPERATION CREDITS

www.reliablecontrols.com

Please contact aengineering@reliablecontrols.com with questions and comments.

¹ USGBC. LEED Rating Systems: Existing Buildings. 2013. 28 July 2013. <<http://www.usgbc.org/ebom>>.

² USGBC. LEED 2009 for Existing Buildings Operations and Maintenance Rating System. Washington, DC: USGBC, 2009.

³ with Reliable Controls[®] RC-Reporter[®]