

## **Nexus Emergency Lighting Monitoring System**

### **Summary of Green Attributes**

The **Nexus Emergency Lighting Management System** supports green buildings and operations by reducing labor and maintenance costs and vehicle miles traveled associated with testing emergency lighting systems. Nexus remote testing eliminates the time and cost-intensive process of manually testing emergency lighting systems, thus providing operational cost savings that can be used to invest in green operations and capital improvements, while freeing maintenance staff to perform other critical tasks. When installed across a portfolio of properties under the same management, Nexus remote testing can reduce CO<sub>2</sub> emissions via reduction in total vehicle miles traveled by eliminating the need for facility managers to travel to perform monthly testing. The cost savings and emissions reducing benefits of the **Nexus Emergency Lighting Management System supports green operations and can serve as an important component of a comprehensive operational sustainability plan.**

Installation of the **Nexus Emergency Lighting Management System** has consistently shown payback periods of 2-3 years. One Canadian school district installed a Nexus system to monitor 2100 emergency lights across 32 buildings. With annual operational cost savings of \$147,000, the \$339,150 premium cost of the Nexus system was offset in less than 2.5 years.

By streamlining testing and monitoring of emergency lighting, the operational savings from the installation of the **Nexus Emergency Lighting Management System pays for itself in the short term while helping to increase system reliability and performance, and reduce the risk of failed inspections.**

## Nexus Emergency Lighting Monitoring System

### Summary of LEED® Contributions by Credit - CaGBC Rating Systems

#### LEED® Canada for Existing Buildings: Operations and Maintenance 2009

For the Operations and Maintenance of Commercial, Institutional Buildings and high-rise Residential Buildings of all sizes, both public and private projects.

##### Sustainable Sites (SS)

###### SSc8, Light Pollution Reduction

The intent of Light Pollution Reduction is to minimize light trespass and light pollution from interior and exterior lighting. Emergency lighting is exempt from the Light Pollution Reduction credit requirements and therefore **Nexus Monitoring Systems** do not impact this credit.

##### Energy and Atmosphere (EA)

###### EAp2 and EA c1, Minimum and Optimize Energy Efficiency Performance

The intent of the Minimum and Optimize Energy Efficiency Performance prerequisite and credit is to optimize operating energy performance relative to typical buildings of a similar type. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing. **Nexus Monitoring Systems** do not offer energy use reduction benefits.

###### EA c3.1, Performance Measurement, Building Automation System

The intent of Performance Measurement, Building Automation System is to provide information to support the ongoing accountability and optimization of building energy performance. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing, but they do not monitor energy use or control emergency lighting systems.

###### EA c3.2, Performance Measurement, System-Level Metering

The intent of Performance Measurement, System-Level Metering is to provide accurate energy-use information to support energy management. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing, but they do not monitor or record energy use.

###### EA c6, Emissions Reduction Reporting

The intent of Emissions Reduction Reporting is to document the emissions reduction benefits of building efficiency measures. While **Nexus Monitored Systems** can reduce total emissions attributed to Operation & Maintenance (O&M) related travel between multiple buildings in a portfolio, emissions from O&M related travel are not addressed in Emissions Reduction Reporting.

##### Materials and Resources (MR)

###### MR c4, Sustainable Purchasing, reduced Mercury in Lamps

The intent of Sustainable Purchasing, reduced Mercury in Lamps is to reduce the amount of mercury brought onto the building site through purchases of lamps. **Nexus Monitoring Systems** provide testing of emergency lighting and are not related to lamp selection.

## Indoor Environmental Quality (EQ)

### EQc2.2, Controllability of Systems-Lighting

The intent of Controllability of Systems – Lighting is to provide a high level of lighting controllability to individual building occupants. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing, but are not lighting controls. Furthermore, emergency lighting is not addressed in Controllability of Systems – Lighting.

## Innovation in Operations (IO)

### IOc3, Documenting Sustainable Building Cost Impacts

The intent of Documenting Sustainable Building Cost Impacts is to document the direct costs of sustainable building costs over time. Documentation of this credit does not require project teams to show a reduction in their LEED EB: O&M project.

However, **Nexus Monitoring Systems have an indirect contribution to IOc3** because project teams and building operators that document sustainable building cost impacts will find that **Nexus Monitored Systems** offer short-term payback and immediate operating savings.

For teams documenting **IOc3** for LEED Canada, information for **Nexus Monitored Systems** can be entered into the credit form under tables **IOc3** calculator under the Repair/Maintenance section of the Historic Costs table, and under the Repair/Maintenance section of the Performance Period Costs table.

## LEED® Canada for New Construction and Major Renovations (NC) 2009

Applies to New Construction and Major Renovations of commercial and institutional buildings, i.e., buildings regulated by Part 3 of the National Building Code. It also applies to retail, mid- and high-rise multi-unit residential buildings (MURBs), public assembly buildings, manufacturing plants, and other types of buildings.

## Sustainable Sites (SS)

### SSc8, Light Pollution Reduction

The intent of Light Pollution Reduction is to minimize light trespass and light pollution from interior and exterior lighting. Emergency lighting is exempt from the Light Pollution Reduction credit requirements and therefore **Nexus Monitoring Systems** do not impact this credit.

## Energy and Atmosphere (EA)

### EAp2 and EAc1, Minimum and Optimize Energy Performance

The intent of the Energy Performance prerequisite and credit is to achieve increasing levels of energy performance to reduce environmental and economic impacts associated with excessive energy use. **Nexus Monitoring Systems** do not offer energy usage reduction benefits. Furthermore, emergency lighting is exempt from energy use reduction calculations.

### EAc5, Measurement and Verification

The intent of Measurement and Verification is to provide on-going accountability of energy use. **Nexus Monitoring Systems** monitor the status of emergency lighting to determine their functionality and provide remote testing, but do not monitor or record energy use.

## Indoor Environmental Quality (IEQ)

### IEQc6.1, Controllability of Systems – Lighting

The intent of Controllability of Systems – Lighting is to provide a high level of lighting controllability to individual building occupants. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing, but are not lighting controls. Furthermore, emergency lighting is not addressed in Controllability of Systems – Lighting.

## LEED® Canada for Commercial Interiors v1.0

Applicable to tenant improvements of new or existing office space.

### Sustainable Sites (SS)

#### SSc1, Option F: Light Pollution Reduction

The intent of Light Pollution Reduction is to minimize light trespass and light pollution from interior and exterior lighting. Emergency lighting is exempt from the Light Pollution Reduction credit requirements and therefore **Nexus Monitoring Systems** do not impact this credit.

### Energy and Atmosphere (EA)

#### EAp2, Minimum Energy Performance

The intent of Minimum Energy Performance is to establish the minimum level of energy efficiency for the tenant spaces systems. **Nexus Monitoring Systems** do not offer energy use reduction benefits. Furthermore, emergency lighting is exempt from lighting power energy use reduction calculations.

#### EAc1.1, Optimize Energy Performance - Lighting Power

The intent of Optimize Energy Performance - Lighting Power is to achieve increasing levels of energy conservation in lighting systems. Emergency lighting is exempt from lighting power energy use reduction calculations and therefore **Nexus Monitoring Systems** do not impact this credit.

#### EAc1.2, Optimize Energy Performance - Lighting Controls

The intent of Optimize Energy Performance - Lighting Controls is to achieve increasing levels of energy conservation in lighting systems via lighting control systems. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing, but is not a lighting control system. Furthermore, emergency lighting is not addressed in Lighting Controls.

#### EAc3, Energy Use - Measurement & Payment Accountability

The intent of Energy Use - Measurement & Payment Accountability is to provide on-going accountability of tenant energy and water use. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing, but do not monitor or record energy use.

### Indoor Environmental Quality (EQ)

#### EQc6.1, Controllability of Systems – Lighting

The intent of Controllability of Systems – Lighting is to provide a high level of lighting controllability to individual building occupants. **Nexus Monitoring Systems** monitor the status of emergency lighting systems to determine their functionality and provide remote testing, but are not lighting controls. Furthermore, emergency lighting is not addressed in Controllability of Systems – Lighting.

*Nexus Monitored Systems LEED® contributions have been validated by LEED Specialist — Vertima Inc.*



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