

Project Drivers and LLLC Proposal Specification Language

This guide connects common project drivers with luminaire-level lighting controls (LLLCs) features and provides recommended specification language to support energy efficient lighting proposals.

AUDIENCE & INTENDED USE

This guide has been crafted to support the sales process between contractors and their customers.

Contractors:

Supports project proposals by connecting customer priorities with LLLC features and provides specification language that supports the value propositions.



Building Owners and Managers:

Helps decision makers document project priorities and ensures the proposed system meets expectations.

Contractors who successfully sell projects with luminaire-level lighting controls frequently share the same advice when it comes to developing project proposals.



PROJECT PROPOSALS DOs

1. Walk the site with the owner or facilities manager and inquire about:
 - Current space use
 - Future space use
 - Challenges with the existing system
2. Document the customer's drivers and priorities
3. Include LLLC specification language to demonstrate understanding and provide context for the proposal
4. When possible, include utility incentives and present the proposal with an estimated ROI



PROJECT PROPOSALS DON'Ts

1. Suggest a solution (even LLLC) without first understanding customer needs
2. Assume the customer always wants the cheapest and simplest solution
3. Introduce technical jargon like "individual addressability" or "mesh networks" without providing context
4. Assume system setup and programming time will exceed labor savings from other areas
5. Rely on energy code alone to drive project specification

Project Drivers and Specification Language Support

The following table lists common project drivers, identifies LLLC performance features, and provides recommended performance specification language to support the project proposal. Not all systems include every feature, so select and adapt only items relevant to the specific product proposed.

Primary Project Drivers	LLLC Performance Feature	Recommended Performance Specification Language to Support Proposal
Low Installation Cost	▪ Wireless controls ▪ Integrated load controllers	To minimize labor and material costs, the proposed LLLC system features: ▪ Wireless communication between devices ▪ Integrated and programmable load controllers at the fixture level ▪ Wireless devices that have a rated battery life of at least three years
Low Operating Cost	▪ Programmability ▪ Energy monitoring	To ensure low operating costs, the system will be configured with a sequence of operations that incorporates the following control strategies: ▪ High-end trim ▪ Occupancy sensing ▪ Daylight harvesting ▪ Scheduling
Space Flexibility	▪ Individual addressability ▪ Wireless rezoning ▪ Battery powered wall controllers	To accommodate space changes and tenant preferences the control system will feature: ▪ Individually addressable fixtures ▪ Wireless and surface mount wall controllers ▪ Wireless devices will have a rated battery life of at least three years
Ease of Use	▪ Tablet or remote control configurable	To ensure ease of use, the system will offer configuration from: ▪ App-based tablet (iOS or Android), remote control, or both ▪ Manual dim and raise ▪ Programmable scene controllers
Reliability	▪ Mesh network ▪ Controls persistence	To ensure reliability, the controls system relies on a mesh network capable of rerouting signals and automatically rejoining networks in the event of outages. If not on a mesh network, controls system should highlight how wireless signals are routed around buildings materials, which might attenuate signal strength (i.e., sub 1Mhz frequency).

Secondary Project Drivers	LLLC Performance Feature	Recommended Performance Specification Language to Support Proposal
Cyber Security	▪ Mesh networks with no gateways ▪ Systems with cyber certifications	To ensure the controls do not create a cyber risk, the system when applicable will: ▪ Operate on its own isolated network ▪ Be listed with approved cyber certification ▪ Provide basic system functionality without the use of a dedicated gateway ▪ Be capable of firmware and app updates that address future vulnerabilities
Accessibility	▪ Remote system access ▪ Scheduling override ▪ Personal control	To ensure accessibility, the system will: ▪ Allow manual local override ▪ Allow approved user remote access (gateway dependent) ▪ Allow multiple levels of user permission so that tenants have access to basic lighting control features (scenes, light levels, tunable white)
Scalability	▪ Gateway device ▪ Additional IOT hardware or cloud services	To ensure scalability, the system can expand network range and capabilities via ▪ Dedicated gateway devices ▪ Additional dedicated network hardware or IOT services
Code Compliance	▪ Integrated motion and occupancy sensors ▪ Programmable load controllers	To ensure code compliance, the LLLC system features integrated motion and photo sensors and a programmable fixture load controller, which will be programmed to a sequence of operations that meets or exceeds applicable code requirements.



To learn more, email info@mnLLLC.org or visit www.mnLLLC.org.