

# A Specifying Engineer's Viewpoint on Unlocking Controls Full Potential

Catherine Hollenshead, P.E., Lighting Assistant Dept. Leader with Estes, McClure & Associates, talks about lighting and lighting controls.



It is no secret that energy codes play a major role in choosing the lighting for a space. With specific requirements for each environment type and even exceptions where no lighting controls are necessary, it can be a difficult task to untangle the basic requirements of energy codes. Once you have met those code minimums, what other lighting controls can you include in your designs to benefit your building owners?

## 1.) Provide motion sensor controls in corridors and stairwells

These are areas that may not have constant activity, so turning the lighting off or at least dimming it when not needed will provide an extra energy savings! To accomplish this, you can either specify integral motion sensors in the luminaires or individual motion sensors with power packs.

## 2.) Provide dimming controls in spaces where it makes sense

With LED lighting, we are easily able to add dimming to a space without a huge price tag attached. In my experience, if you add dimming, they will use it. Giving the occupants the ability to customize their lighting to fit their needs can increase productivity and employee satisfaction. Determine the dimming range that best fits the space and specify the appropriate switch station.

## 3.) Provide multi-scene controls within a space

Multi-scene controls can add flexibility and customization to a space. For example, in a conference room that has multiple layers of light it makes sense to offer the ability to preset scenes for different activities. You can have a scene for A/V presentations, socializing, highlighting artwork or a scene that uses the lighting to add depth and dimension to make the space more inviting. To execute a design like this you need to make sure that you clearly define the different control zones within the space and specify dimming drivers in your luminaires. Your scenes can then be any combination of control zones and dim levels.

4.) Provide a control system with the ability to schedule automatic lighting changes throughout the day

A control system that includes an astronomical time clock and the ability to program scheduled events can bring a space to life and offer a vibrant impact to enhance the architecture. Designing with layers of light,- including layers of RGBW lighting, allows you to create dynamic effects. For example, in a large, open lobby and entry area of an office building you may have direct/indirect pendant lighting with RGBW for the indirect portion as the general lighting in the space, some accent lighting emphasizing the company logo behind the reception desk and wall grazers emphasizing the textures on a focal wall in the waiting area. You can use schedules to create different looks throughout a 24-hour period. When designing a space like this you need to carefully note your control zones throughout the environment and specify dimming and/or DMX drivers to give yourself almost unlimited control options.

When it comes to meeting code, take a step further to really understand the lighting needs in a space and specify controls that go beyond basic requirements to achieve maximum project potential!



**About the Author - Catherine Hollenshead, P.E.**

Ms. Hollenshead obtained her B.S. in Electrical Engineering from The University of Texas at Tyler in 2004. She began her engineering career with EMA in 2004. During the first eleven years of her career, Ms. Hollenshead was responsible for preparing complete electrical specifications, electrical power and lighting drawings, coordinating with architects, other engineering disciplines and utility providers. During this time, she developed an unwavering passion for lighting and earned the title of Lighting Specialist. Over the last three years, Ms. Hollenshead has created and managed EMA's lighting department. She is responsible for developing lighting design standards and specifications, training lighting designers and educating the firm on new code requirements and innovative lighting trends. Ms. Hollenshead became a Licensed Professional Engineer by the Texas Board of Professional Engineers in 2009 and Lighting Certified by the NCQLP in 2012.