## Enable Advanced RTU Controls

### Description

This energy efficiency measure (EEM) reduces all exterior lighting to 30% of its peak power between midnight or within 1 hour of business closing, whichever is later, and until 6 am or business opening, whichever is earlier, and during any period activity is not detected for a time longer than 15 minutes.

### Modeler Description

This EEM loops through all occupancy schedules in the model, determines the earliest and latest building open and close times, and creates a new fractional schedule for exterior lights based on these times. The new schedule reduces the exterior lighting power to from 1.0 to 0.7 (30% reduction) during this interval.

### Use Case Types

This measure applies to the following OpenStudio use cases types:

* Retrofit EE
* New Construction EE

### Arguments

No arguments per DOE.

### Initial Condition Message

Total exterior lighting power = #{TODO} W

### Final Condition Message

Total exterior lighting power = #{TODO} W

### Not Applicable Messages

No exterior lighting found, EEM not applied.

### Warning Messages

Exterior lighting control option changed from Astronomical Clock to Scheduled.

### Error Messages

NA

### Code Outline

1. Loop through occupancy schedules in the model and find max and min times
2. Create new schedule for exterior lights based on building open and close times or 12-6am
3. Set schedule for all exterior lights objects to new schedules and set Control Option to ScheduleNameOnly

### Tests

This measure applies to all DOE Prototype Building types.

**Test results: TBD**