DOCKETED	
Docket Number:	13-ATTCP-01
Project Title:	Acceptance and Training Certification
TN #:	214346-4
Document Title:	Fourth Amendment - Application for Approval of NLCAA as Lighting Controls Acceptance Test Technician Provider
Description:	N/A
Filer:	Patty Paul
Organization:	NLCAA
Submitter Role:	Public
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FOURTH AMENDMENT

NOTE: ... to the APPLICATION FOR APPROVAL OF NLCAA, (THE NATIONAL LIGHTING CONTRACTORS ASSOCIATION OF AMERICA), AS A LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN PROVIDER. (Rev 04)

... Consists of replacing the following APPLICATION Sections:

Attachment 2 – (Lighting Controls Acceptance Test Technician Class Outline)

Attachment 3 - (NLCAA Acceptance Test Technician Employer Class Outline)

ASSUME ENTIRE ATTACHMENT (Attachment 2) DELETED

Lighting Controls Acceptance Test Technician Class Outline

Introduction Why advanced lighting and Title 24? **Quality and Complaint Policies and Procedures** Acceptance Test Technician **Modern Lighting Technologies** Past Technologies Luminance and Illuminance Units of Interest Lumen Output Footcandles and Lux Absolute vs. Relative Illuminance Measurement **Proper Use of Lightmeters Lightmeter Types IES Lighting Levels and Title 24 Lamp Types Review** Incandescent Fluorescent Induction HID LED **Lamp Specifications Correlated Color Temperature Color Rendering** Lamp Markings **DOE Information Labels Ballasts and Drivers** Fluorescent Ballasts: BF and BEF **Starting Fluorescents and HID** Magnetic and Electronic Ballasts: Crest Factor Fluorescent Dimming **LED Drivers: Dimming Controlling Luminaires** 0-10V Dimming Ballasts and Drivers **Digital Dimming Ballasts and Drivers Installing and Testing** Wiring Techniques **Heat Dissipation** Grounding **Initial Testing**

Lighting Controls Area Controls and 130.1 (a) Switching Schemes Line Voltage Low Voltage Relays, Power Packs, Power Pack Logic Functions Shut-OFF Controls and 130.1 (b) Automatic Time Switches **Occupancy sensors Technologies and Applications** Dimming Controls and 130.1 (c) **Phase Dimmers 0-10V and Digital Controls** Zones, Groups, and Scenes Daylight Harvesting and 130.1 (d) Photosensors vs. Photo-controllers **Open and Closed Loop Systems Introduction** Automated Demand Response and 130.1 (e) The Demand Response Signal **Title 20 and Lighting Systems Lighting Systems Large Lighting Systems** Working with Lighting Controls Safety **Avoiding Equipment Damage Test Equipment Types and Use Test Equipment Ratings Test Equipment Safety** Lock-out/Tag-out and PPE Avoiding "Deprogramming" Controls **Reference Documents Contents of the 4 Reference Documents** Where to find the Reference Documents Insuring you have the most recent revisions 2013 Building Energy Efficiency Standards Definitions, Compliance Process, Design, Mandatory Controls, Acceptance 2013 Reference Appendices Acceptance Tests, Installation Tests 2012 Appliance Efficiency Regulations **Functional Requirements of Lighting Controls** Insuring devices have been Certified to the Energy Commission 2013 Nonresidential Compliance Manual Acceptance Forms, Compliance Forms, Installation Forms

Introductory Subjects The Percent Reduction Formula Percentages Compliance Process The Compliance Process Examination of Forms **Compliance Forms** Installation Forms Acceptance Forms **Definitions Title 24 Controls** Where Required and Exceptions Lighting Power Density **Design methods Prescriptive methods** Performance method Trade-offs Interlocked Lighting Systems Area Controls Where Required and Exceptions **Multi-Level Controls** Minimum Control Steps by Technology and Wattage **Uniformity Requirements by Technology and Wattage** Where Required and Exceptions **Dimming Controls Acceptance Testing Overview** Purpose of Acceptance Testing When Required **Construction Inspections Functional Testing** Acceptance Forms Shut-OFF Controls **Introduction: Timers and Occupancy sensors Power Adjustment Factors (PAF) Calculating and Verifying Acceptance Testing Timers** Automatic Time Switches Astronomical Time-Switch Where Realized by an EMCS or Lighting Control System

Occupancy Sensors
Part-OFF
Why Required
Part-ON
Why Utilized
Where Required
Vacancy Sensors
Where Realized by an EMCS or Lighting Control System
Shut-OFF Controls Acceptance Procedures
Acceptance tests
Filling Out NRCA LTI-02-A
Review: Where Required
Automatic Daylighting Controllers
Review of Closed-Loop Lighting Systems
Introduction
Overview of Common Daylighting Systems
Definitions
Daylit Zones
Definitions
Order of Precedence
Location of Daylit Zones on Plans
Fixtures Located in Daylit Zones
Zones Illuminated by Controlled Luminaires
Acceptance Testing
Construction Inspection
EMCS or Lighting Control System Installation Inspections
Stepped or Continuously Dimmed System?
Photosensor Location and System Type: (Open or Closed) Loop?
Review of Open and Closed Loop Daylighting Systems
Reference Location
Locating
Special Case: Parking Garages

Acceptance Testing of Automatic Daylighting Systems

Functional Testing

Closed-Loop Systems

No Daylight Test

Full Output Test

Full Daylight Test

Power Reduction Calculation

Partial Daylight Test

Open-Loop Systems

No Daylight Test

Sensor Ratio

Full Daylight Test

Power Reduction Calculation (Stepped)

Power Reduction Calculation (Continuous)

Partial Daylight Test

Continuous

Stepped

Outdoor Lighting Controls

Types of Outdoor Lighting Controls

Where Required and Exceptions

Part-Night Controls: Definition

Part-Night Controls: Extended Definition per \$110.9 (b) 5.

Acceptance Testing

Construction Testing

Location of Outdoor Controls

Functional Testing

Motion

No Motion

Shut-OFF Controls

Timers

Part Night Timers

Part-Night Motion or Time-Based System

Demand Responsive Controls

Where Required and Exceptions

Area Weighted Average

Acceptance Testing

Full Output Test

Minimum Output Test

Special Case: Daylit Spaces

Summary

Who Signs the Forms?

ASSUME ENTIRE ATTACHMENT (Attachment 3) DELETED

NLCAA Acceptance Test Technician Employer Class Outline

Introduction

mer ourceion	
Why advanced lighting and Title 24?	
Quality and Complaint Policies and Procedures	
Form Reviews and Field Inspections	
Acceptance Test Technician Employer	
Reference Documents	
Contents of the 4 Reference Documents	
Insuring you have the most recent revisions Where to find the Reference Documents	
2013 Building Energy Efficiency Standards	
Definitions, Compliance Process, Design, Mandatory Controls, Acceptance	
2013 Reference Appendices	
Acceptance Tests, Installation Tests	
2012 Appliance Efficiency Regulations	
Functional Requirements of Lighting Controls	
Insuring devices have been Certified to the Energy Commission	
2013 Nonresidential Compliance Manual	
Acceptance Forms, Compliance Forms, Installation Forms	
Introductory Subjects	
The Percent Reduction Formula	
Percentages	
Compliance Process	
The Compliance Process	
Examination of Forms	
Compliance Forms	
Installation Forms	
Acceptance Forms	
Definitions	
Title 24 Controls	
Where Required and Exceptions	
Lighting Power Density	
Design methods	
Prescriptive methods	
Performance method	
Trade-offs	
Interlocked Lighting Systems	
Area Controls	
Where Required and Exceptions	
- X K	

Multi-Level Controls Minimum Control Steps by Technology and Wattage Uniformity Requirements by Technology and Wattage Where Required and Exceptions **Dimming Controls Shut-OFF Controls Introduction: Timers and Occupancy sensors Power Adjustment Factors (PAF) Calculating and Verifying Acceptance Testing Acceptance Testing Overview Purpose of Acceptance Testing** When Required Acceptance Forms **Timers** Automatic Time-Switches Astronomical Time-Switch **Occupancy Sensors** Part-OFF Part-ON Where Required Vacancy Sensors Shut-OFF Controls Acceptance Procedures **Review: Where Required Automatic Daylighting Controllers Overview Definitions Daylit Zones Definitions Order of Precedence Location of Daylit Zones on Plans** Fixtures Located in Daylit Zones **Zones Illuminated by Controlled Luminaires Reference Location Special Case: Parking Garages Acceptance Testing Construction Inspection Review of Open and Closed Loop Daylighting Systems Review of Open and Closed Loop Sensor Locations**

Functional Testing No Daylight Test Full Output Test Full Davlight Test **Partial Daylight Test Outdoor Lighting Controls Types of Outdoor Lighting Controls** Where Required and Exceptions Part-Night Controls: Definition **Acceptance Testing Construction Testing Location of Outdoor Controls Functional Testing Motion** No Motion Shut-OFF Controls **Timers Part-Night Timers** Part-Night Motion or Time-Based System **Demand Responsive Controls** Where Required and Exceptions Area Weighted Average **Acceptance Testing** Full Output Test **Minimum Output Test Special Case: Daylit Spaces** Working with Lighting Controls **Safety Avoiding Equipment Damage Test Equipment Types and Use Test Equipment Ratings Test Equipment Safety** Lock-out/Tag-out and PPE Summary Who Signs the Forms?

Lighting Controls Acceptance Test Technician Class Outline

Introduction **Contents of This Handbook Quality and Complaint Policies and Procedures** Acceptance Test Technician **Modern Lighting Technologies Past Technologies** Luminance and Illuminance **Units of Interest Lumen Output Footcandles and Lux** Absolute vs. Relative Illuminance Measurement **Proper Use of Lightmeters Lightmeter Types IES Lighting Levels and Title 24** Lamp Types Review Incandescent Fluorescent Induction HID LED **Lamp Specifications Correlated Color Temperature Color Rendering** Lamp Markings **DOE Information Labels Ballasts and Drivers Fluorescent Ballasts: BF and BEF Starting Fluorescents and HID Institutional Tuning** Lumen Maintenance **Fluorescent Dimming LED Drivers: Dimming Controlling Luminaires 0-10V Dimming Ballasts and Drivers Digital Dimming Ballasts and Drivers Installing and Testing** Wiring Techniques **Heat Dissipation** Grounding **Initial Testing**

Lighting Controls Area Controls Switching Schemes Line Voltage Low Voltage **Relays, Power Packs, Power Pack Logic Functions** Shut-OFF Controls and 130.1 (b) **Automatic Time Switches Occupancy sensors Technologies and Applications** Dimming Controls and 130.1 (c) **Phase Dimmers 0-10V and Digital Controls Zones, Groups, and Scenes** Daylight Harvesting and 130.1 (d) Photosensors vs. Photo-controllers **Open and Closed Loop Systems Introduction** Automated Demand Response and 130.1 (e) **The Demand Response Signal Title 20 and Lighting Systems Lighting Systems** Large Lighting Systems Working with Lighting Controls Safety **Avoiding Equipment Damage Test Equipment Types and Use Test Equipment Ratings Test Equipment Safety** Lock-out/Tag-out and PPE Avoiding "Deprogramming" Controls **Reference Documents** Why advanced lighting and Title 24? **Contents of the 4 Reference Documents** Where to find the Reference Documents Insuring you have the most recent revisions 2016 Building Energy Efficiency Standards Definitions, Compliance Process, Design, Mandatory Controls, Acceptance 2016 Reference Appendices **Acceptance Tests, Installation Tests** 2015 Appliance Efficiency Regulations **Functional Requirements of Lighting Controls** Insuring devices have been Certified to the Energy Commission 2016 Nonresidential Compliance Manual

Regulation and Certification Title 20 **Certified to the Commission Introductory Subjects The Percent Reduction Formula** Percentages **Compliance Process The Compliance Process Examination of Forms Compliance Forms Installation Forms Acceptance Forms** Definitions **Title 24 Controls** Where Required and Exceptions **Lighting Power Density Design methods Prescriptive methods Performance method Trade-offs Interlocked Lighting Systems** Area Controls Where Required and Exceptions **Multi-Level Controls** Minimum Control Steps by Technology and Wattage **Uniformity Requirements by Technology and Wattage** Where Required and Exceptions **Dimming Controls Acceptance Testing Overview Purpose of Acceptance Testing** When Required **Construction Inspections Functional Testing Acceptance Forms Shut-OFF Controls Introduction: Timers and Occupancy sensors Power Adjustment Factors (PAF) Calculating and Verifying Acceptance Testing Timers Automatic Time-Switches Astronomical Time-Switch**

Occupancy Sensors Part-OFF Why Required **Part-ON** Why Utilized Where Required **Vacancy Sensors Shut-OFF Controls Acceptance Procedures Acceptance tests** Filling Out NRCA-LTI-02-A **Review: Where Required Demand Responsive Controls** Where Required and Exceptions **Area Weighted Average Acceptance Testing Full Output Test Minimum Output Test Special Case: Daylit Spaces Automatic Daylighting Controllers Review of Closed-Loop Lighting Systems** Introduction **Overview of Common Daylighting Systems** Definitions **Daylit Zones** Definitions **Order of Precedence Location of Daylit Zones on Plans Fixtures Located in Daylit Zones Zones Illuminated by Controlled Luminaires Acceptance Testing Construction Inspection EMCS or Lighting Control System Installation Inspections Stepped or Continuously Dimmed System?** Photosensor Location and System Type: (Open or Closed) Loop? **Review of Open and Closed Loop Daylighting Systems Reference Location** Locating **Special Case: Parking Garages**

Acceptance Testing of Automatic Daylighting Systems Functional Testing Closed-Loop Systems No Daylight Test Full Output Test Full Daylight Test Power Reduction Calculation

Partial Daylight Test

Open-Loop Systems

No Daylight Test

Sensor Ratio

Full Daylight Test

Power Reduction Calculation (Stepped)

Power Reduction Calculation (Continuous)

Partial Daylight Test

Continuous

Stepped

Institutional Tuning

How Accomplished

Acceptance Testing

Filling out NRCA-LTI-05-A

Outdoor Lighting Controls

Types of Outdoor Lighting Controls

Where Required and Exceptions

Part-Night Controls: Definition

Part-Night Controls: Extended Definition per \$110.9 (b) 5.

Acceptance Testing

Construction Testing

Location of Outdoor Controls

Functional Testing

Shut-OFF Controls

Timers

Part-Night Timers

Part-Night Motion or Time-Based System

Automatic Scheduling Systems

Summary

Who Signs the Forms?

Lighting Controls Acceptance Test Employer Class Outline

Introduction

Quality and Complaint Policies and Procedures Acceptance Test Technician Acceptance Test Employer

Reference Documents

Why advanced lighting and Title 24? **Contents of the 4 Reference Documents** Where to find the Reference Documents Insuring you have the most recent revisions 2016 Building Energy Efficiency Standards Definitions, Compliance Process, Design, Mandatory Controls, Acceptance 2016 Reference Appendices **Acceptance Tests, Installation Tests** 2015 Appliance Efficiency Regulations **Functional Requirements of Lighting Controls** Insuring devices have been Certified to the Energy Commission 2016 Nonresidential Compliance Manual **Regulation and Certification** Title 20 **Certified to the Commission Introductory Subjects The Percent Reduction Formula** Percentages **Compliance Process The Compliance Process Examination of Forms Compliance Forms Installation Forms Acceptance Forms** Definitions **Title 24 Controls** Where Required and Exceptions **Lighting Power Density Design methods Prescriptive methods Performance method Trade-offs Interlocked Lighting Systems**

Area Controls		
Where Required and Exceptions		
Multi-Level Controls		
Minimum Control Steps by Technology and Wattage		
Uniformity Requirements by Technology and Wattage		
Where Required and Exceptions		
Dimming Controls		
Shut-OFF Controls		
Introduction: Timers and Occupancy sensors		
Power Adjustment Factors (PAF)		
Calculating and Verifying		
Acceptance Testing		
Timers		
Automatic Time-Switches		
Astronomical Time-Switch		
Occurrence Sensore		
Occupancy Sensors Part-OFF		
Why Required		
Part-ON		
Why Utilized		
Why offized Where Required		
Vacancy Sensors		
Shut-OFF Controls Acceptance Procedures		
Acceptance tests		
Filling Out NRCA-LTI-02-A		
Review: Where Required		
Automatic Daylighting Controllers		
Review of Closed-Loop Lighting Systems		
Introduction		
Overview of Common Daylighting Systems		
Definitions		
Daylit Zones		
Definitions		
Order of Precedence		
Location of Daylit Zones on Plans		
Fixtures Located in Daylit Zones		
Zones Illuminated by Controlled Luminaires		
Acceptance Testing		
Construction Inspection		
Stepped or Continuously Dimmed System?		
Photosensor Location and System Type: (Open or Closed) Loop?		
Review of Open and Closed Loop Daylighting Systems		

Reference Location Locating Special Case: Parking Garages

Acceptance Testing of Automatic Daylighting Systems Functional Testing Closed-Loop Systems No Daylight Test Full Output Test Full Daylight Test Power Reduction Calculation Partial Daylight Test Open-Loop Systems No Daylight Test Sensor Ratio Full Daylight Test Power Reduction Calculation (Stepped) Power Reduction Calculation (Continuous) Partial Daylight Test Continuous

Stepped

Outdoor Lighting Controls

Types of Outdoor Lighting Controls

Where Required and Exceptions

Part-Night Controls: Definition

Part-Night Controls: Extended Definition per \$110.9 (b) 5.

Acceptance Testing

Construction Testing

Location of Outdoor Controls

Functional Testing

Shut-OFF Controls

Timers

Part-Night Timers

Part-Night Motion or Time-Based System

Automatic Scheduling Systems

Demand Responsive Controls

Where Required and Exceptions

- Area Weighted Average
- Acceptance Testing
 - Full Output Test

Minimum Output Test

Special Case: Daylit Spaces

Institutional Tuning

How Accomplished Acceptance Testing Filling out NRCA-LTI-05-A

Working with Lighting Controls

Safety Avoiding Equipment Damage Test Equipment Types and Use Test Equipment Ratings Test Equipment Safety Lock-out/Tag-out and PPE

Summary

Who Signs the Forms?