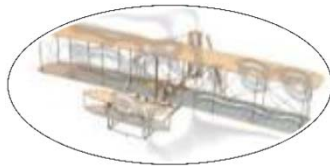


**Intertek**

## **Intertek Airport Lighting Equipment Certification Program**



2011-IESALC  
Wilmington, NC



**IES Government Contacts Subcommittee, October 17, 2011**

**Wilmington, NC**

**Jeremy N. Downs, P.E. – Engineering Team Leader**



## ***Typical Products Tested IAW FAA AC 150/5345 series Include:***

- Rotating Beacons
- Obstruction Lights
- Wind Cones
- Isolation Transformers
- Taxiway / Runway Inpavement Lights
- Retroreflective Markers
- Cable Connectors
- Underground Cable
- Runway & Taxiway Signs
- Portable Runway Lights
- Light Bases
- Constant Current Regulators
- Precision Approach Path Indicators (PAPI)
- Runway End Identification Lights (REIL)



## FAA AC 150/5345-53C

- Manufacturer submits certification request
- Qualification testing
- Documentation submittal and engineering review
- Initial manufacturing facility audit
- License Agreement
- Certificate issued and product listed in 53C Addendum
- Certification process covered under ANSI accreditation to ISO Guide 65

# AL-2 Request for Certification or Revision of Certificate

Exhibit 2 Form AL-2rev, Request for Certification - EQUIPMENT  
An Activity Sponsored and Administered by  
INTERTEK  
AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM  
REQUEST FOR EQUIPMENT CERTIFICATION

PROGRAM ADMINISTRATOR  
DEPARTMENT ALECP  
INTERTEK  
3933 US ROUTE 11  
CORTLAND, NY 13045-0950

Intertek

TO BE COMPLETED AND FORWARDED WITH REQUIRED DOCUMENTATION TO THE ADMINISTRATOR pg 1 of 1

DATE:	L-type:	Catalog No./Lamp No. (or attach list):
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1. MFG Name: \_\_\_\_\_ Contact: \_\_\_\_\_  
MFG Facility site: \_\_\_\_\_ Phone: \_\_\_\_\_  
e-mail: \_\_\_\_\_  
website: \_\_\_\_\_

2. The equipment to be tested is:  
☐ prototype  
☐ production unit  
and described as follows \_\_\_\_\_

3. The Certification is (check applicable note):  
\_\_\_\_ new listing of product (or re-qualification)  
\_\_\_\_ addition of product (issued as new cert)\*\*  
\_\_\_\_ addition of product to Certificate issued\*\*  
\_\_\_\_ addition of lamp to Certified product\*\*  
\_\_\_\_ revision to catalog numbers listed or additional  
catalog numbers for tested product\*\*\*\*  
\_\_\_\_ a manufacturer listing for non-OEM product\*\*  
\_\_\_\_ a manufacturer name and/or site change\*\*  
\_\_\_\_ modification to certified product\*\*  
(requires Waiver form submittal and Engineering review fee)  
**Fee for review \$ 800. \*\*List applicable test reports below  
and submit a copy of report(s) with copy of current C of C:**

4. To be tested at:  
☐ Intertek – Lighting Department – Cortland, NY  
☐ Manufacturer's Facility (see section 5)  
☐ Independent Commercial Laboratory (subject to audit and  
see section 5)  
Name: \_\_\_\_\_  
Location: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Phone: \_\_\_\_\_

5. WITNESS: Attach the Proposed Test Schedule and test Plan  
(to be witnessed – Engineering Review for Test Plan required)  
Authorization for engineering and witness fees required.  
Request from Program Coordinator (jill.wilson@intertek.com)

6. In addition to copies of applicable test reports and written authorization or PO for \*\* \$800 fee per certificate,  
attached to this form are:  
\_\_\_\_ (a) List of Types, Classes, Styles, Sizes, manufacturer's catalog numbers.  
\_\_\_\_ (b) Section and part drawings  
\_\_\_\_ (c) Assembly drawings  
\_\_\_\_ (d) Bill of Materials showing manufacturer's name and part numbers  
\_\_\_\_ (e) Statement of Warrantee  
\_\_\_\_ (f) Instruction/installation/operating manual  
\_\_\_\_ (g) Product Description sheet (marketing material)  
\_\_\_\_ (h) AL2-B Lamp Life Test form

If submitting electronically, please identify the file name to include the L-type, catalog no, document name, client, date

BY FILING THIS FORM, THE LICENSEE AGREES TO THE FOLLOWING:  
A. THAT THE EQUIPMENT BEING SUBMITTED FOR TEST IS REPRESENTATIVE OF PRODUCTION AND IS A DUPLICATE OF THE TYPE  
PRODUCT DESIGNATED THAT WILL BE OFFERED FOR SALE, OR THAT IS A PROTOTYPE OF THE PRODUCTION UNITS WHICH WILL BE  
IDENTICAL TO IT WHEN OFFERED FOR SALE.  
B. THAT THE TESTING LABORATORY IS TO VERIFY THE DESIGN CONSTRUCTION OF THE SAMPLE, WHICH LICENSEE WILL DELIVER TO  
THE LABORATORY, BY REFERENCE TO DRAWINGS AND OTHER DESCRIPTIVE INFORMATION.  
C. PERMIT THE ADMINISTRATOR TO WITNESS THE TESTING (AT HIS OPTION) AND HAVE COMPLETE ACCESS TO THE TEST SAMPLE AND  
ALL DATA PERTAINING THERETO.  
D. THAT THE APPLICANT AGREES TO COMPLY WITH THE REQUIREMENTS FOR VERIFICATION AND TO SUPPLY ANY INFORMATION  
NEEDED FOR EVALUATION OF PRODUCTS TO BE CERTIFIED.

FORM AL-2rev 9/2010

- Copy of all Qual Test Reports
- List of L-type, class, style, size
- List of catalogue number(s)
- Section & part drawings
- Assembly drawings
- BOM with mfg name/catalogue numbers
- Statement of Warrantee
- Instruction/installation/operating manual
- Product Description sheet (marketing)
- AL-2B Lamp Life form

## Qualification Testing

FAA AC 150/5345-53C, Appendix 2, section 5.C.i

Must be done IAW ISO 17025

At Intertek – covered under A2LA accreditation

Outside of Intertek – covered by audit and witness

- Test Plan Review and Acceptance
- Assignment to Intertek Representative
- Formal Report issued by Manufacturer

## Common Qualification Tests Performed

***Per Product Specific FAA  
150/5345 Series Advisory  
Circulars :***

- Photometry
- Chromaticity
- Accelerated Life
- Vibration (Sinusoidal, Random)
- Mechanical Shock
- Corrosion (Salt Fog) / Accelerated Corrosion
- Moisture, Rain Spray, Immersion, Icing
- Dust
- Wind Load
- Temperature / Humidity Cycling
- EMI / EMC
- Altitude
- Lamp Life Test
- Insulation Resistance
- Thermal Shock
- Operational
- Accelerated Weathering
- Electrical
- Leakage Current
- Dielectric
- Transient Suppression

## **Current Program Status**

89 Participating Manufacturers

(4 New Manufacturers)

1 new program participant

3 new sites of existing participants

(3 Pending new program participants)

➤ 30 new and requalification certificates issued since the spring meeting

➤ 83 revised certificates issued since the spring meeting

8 year re-qualifications (4 years for L-890 ALCMS)

Product modifications

- requires - AL-2 resubmittal
  - associated documentation
  - abbreviated testing

Specification updates

Semi-annual inspections



## Semi-annual Inspections

- AL-7 Audit (follows basic ISO quality assurance requirements)
- AL-1; AL-1A Contact Sheet
- Product Checklist(s)
  - Construction review using the applicable ACs
- Production Testing Requirements
  - As required in the applicable ACs

## New Specifications

### FAA AC 150/5345-47C (transformers) - 7/22/11

- Removed case material tensile strength requirements
- Changed case material hardness requirement
- Existing qualification files are being reviewed

### • FAA AC 150/5345-28G (PAPI) – 9/29/11

- Category C1 surge testing changed to C2
- Transient Suppression Test to be required
- Notices to be sent to manufacturers

## New Specifications

- FAA AC 150-5345-56B – 9/29/11
  - Specification review in process
- FAA AC 150/5345-39D (retroreflective markers) – 9/26/11
  - Type II dimension and mounting clarifications
  - Existing qualification files are being reviewed for dimensions

- FAA EB67D (in process)

## Related International Standards

- ICAO Annex 14
- IEC 61827 (runway and taxiway lights)
- IEC 61822 (CCRs)
- IEC 61823 (transformers)
- Transport Canada CAR 621.19 (Obstruction)



# Questions?

