

Maintenance of Airfield Navaid Facilities

Per the FAA AC 150/5340-26B
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- FAA AC was originally written in 8/26/1992
- Revisions in 4/4/2005, 9/30/2009
- The scope of this AC per the FAA:
 - "Provides recommended guidelines for maintenance of airport visual aid facilities"
 - "In general, use of this AC is not mandatory. However, use of this AC is mandatory for all projects funded with federal grant monies through the Airport Improvement Program (AIP) and with revenue from the Passenger Facility Charges (PFC) Program"

We do Maintenance, Right?

- The AC covers:
 - Safety
 - Maintenance Management
 - Test Equipment
 - Preventative Maintenance
 - Troubleshooting
 - Standards and Tolerances

- Key Concepts
 - Always assume that the circuit is energized
 - Never break a live series circuit
 - Never enter a manhole with energized circuits nor should you handle energized conductors or transformers
- Re-lamping Issues – per the AC, “we recommend that you perform re-lamping of the series lighting circuits with the circuits de-energized, especially during the re-lamping of fixtures with exposed contacts. If this is not practical, wear appropriate insulating gloves with leather gauntlets during re-lamping procedures”

Safety

The purpose of the maintenance management system is to ensure the maximum availability of any given system at a minimum cost in man-hours or funds

- Key Factors in Preventative Maintenance:
 - Initial Installation Quality
 - Personnel/Training
 - Tools/Test Equipment
 - Inspection Schedules
 - Documentation

Maintenance Management

- Requirements for Airfield Electricians are specialized & they need special equipment
 - Multimeter
 - Megger
 - Clamp on Ammeter
- ONLY use true RMS equipment!!

Test Equipment

Jim Wallace – w/ Seaward Electronic

Test Equipment

- The AC contains dozens of recommended PM schedules for most equipment related to Nav aids
 - Annual, Semi-Annual, Monthly, etc.
 - Written to accommodate and assist an airport user in setting up a PM system

Preventative Maintenance

- Key Points:
 - Tips & procedures for locating faults in series circuits
 - Diagrams for pictorial representation
- Excellent reference document for experienced airport electricians & a great training tool for apprentices

Troubleshooting

- Rotational speed & vertical aiming of a beacon?
- (6 RPM & between 2 – 10 degrees)
- Flashing rate of a MALSR?
- (120 FPM +/- 2 FPM)
- Aiming angles of a 4 box PAPI?
- (3 30", 3 10", 2 50", 2 30")
- Starting time of a standby generator?
- (15 Seconds or less)

Standards & Tolerances Quiz

- The FAA spends enormous amounts of money to construct....Why not maintain?
- Some states are able to use FAA AIP \$ to maintain systems (TX-block grants)...Shouldn't this be standard?
- Problem seems to be "The lights are on, what's the problem"

The Takeaway