



Maintenance & Inspection Procedures

Sports lighting poles, as with any man-made structure, require periodic inspection and maintenance during their service life. Without proper maintenance, the deteriorating effects of the environment over time can reduce the functional life of a sports pole and in some cases, cause pole collapse.

Sports lighting pole owners should develop and document a routine scheduled inspection and maintenance program. An inspection program should include frequent pole inspections. **Nondestructive Testing (NDT)** performed by technicians knowledgeable in ultrasonic, magnetic-particle and liquid-penetrant test methodologies should be utilized. Tests such as these are useful in detecting hairline cracks, internal corrosion and other structural integrity issues which can be difficult to detect through basic visual inspection techniques.

Inspection Frequency

Frequency of inspection depends on many risk factors including geographical location, site location, the age of the structure, and information collected from the initial inspection. Inspection should always occur immediately after a major wind event. A pole inspection is recommended at least every ninety days and with greater frequency if risk factors warrant. **Nondestructive Testing inspection** is recommended for pole sites where suspect areas of concern have been discovered.

A Nondestructive Testing inspection should be performed by qualified engineer or level II NDT technician knowledgeable in ultrasonic, magnetic-particle and liquid-penetrant testing techniques to provide the pole owner with a documented report of the current-state condition of the pole. This inspection can identify subsurface cracks and internal corrosion not readily apparent to an outside visual observation of the pole. Tests such as these are useful in detecting hairline cracks, internal corrosion and other structural integrity issues which can be difficult to detect through basic visual inspection techniques. Also it is recommended that an NDT inspection be performed periodically as a part of an inspection and maintenance program in areas where pole fatigue risk factors have a history or become apparent. There are providers which can provide these NDT inspection services.

1. **Visual observation for any cracks to the pole base or shaft.** For example, the area directly above the base weld is an important area to check for cracks. If any cracks are observed, contact your engineer or NDT test firm immediately.
2. **Visual observation for loose anchor bolt nuts.** Check to ensure anchor bolt nuts are tight on both the top and bottom side of the base plate. If the nuts are loose, snug the bottom leveling nut and then tighten the top nut by the Turn-of-the-Nut Method. For more information on the Turn-of-the-Nut Method, please refer to the following website: www.nucor-fastener.com/Files/PDFs/TechDataSheets/TDS_012_Turn-of-Nut_Installation.pdf
3. **Visual observation for corrosion** should note areas where the paint, galvanizing or any other decorative/protective coating has been damaged or is no longer of internal corrosion.
4. Periodically observe the pole for any signs of a wind-induced vibration. Observe the pole for unusual shaft movement or sway, touch the pole to see if you can feel any vibration and listen for wires or cable rattling against the interior of the pole shaft. Notify the engineer or NDT test firm if pole vibration, noise or movement is observed. A vibration-mitigation device may be required to reduce pole vibration. If vibration is allowed to continue, fatigue damage may occur to the pole, which may impact the pole's structural integrity.

While the pole owner is responsible for determining what to observe and document at their facility, the pole owner may consider utilizing the attached checklist as part of their pole condition inspection.

Sports Lighting Inspection Checklist

A – Mechanical

Check to ensure anchor bolt nuts are tight on both the top and bottom side of the base plate. Snug the bottom leveling nut and tighten the top nut by the Turn-of-the-Nut Method. For more information on the Turn-of-the-Nut Method, please refer to the following website: www.nucor-fastener.com/Files/PDFs/TechDataSheets/TDS_012_Turn-of-Nut_Installation.pdf
Visually inspect all structural welds for any signs of rust or cracking at or near the listed welds – Take appropriate actions to examine further or repair if a crack is observed.

Check the following:

- Base plate weld.
- Hand hole rim weld.

B – Vibration

Check the pole for any signs of wind-induced vibration. Observe the pole for movement of the shaft, touch the pole to see if you can feel any vibration, and/or listen for wires or cable rattling against the inside of the pole shaft.

C – Finish

Check the finish for any damage or rusting in the coating:

- **Galvanized surface** – Check the galvanized coating for any damaged areas such as nicks, scratches, scraps, cuts, or rusting. Clean damaged or rusted area and coat with a zinc-enriched paint such as ZRC® (or equivalent) per ASTM A 780.
- **Painted surface** – Check the paint film for any damage areas such as nicks, scratches, scraps, cuts, or rusting. Clean damaged or rusted areas, prime, and top coat per manufacturer's recommendation.

D – Luminaires and Electrical Enclosures

Check to confirm that they remain mounted securely, environmentally contained and electrically grounded.

E – System Ground confirmation

Check to confirm effective ground by testing means determined by local inspection agency having jurisdiction.

For additional information regarding the inspection of sports lighting poles, consult your local contractor or call Hubbell Lighting, Inc. at 864-678-1254.