

Owners of towers should perform initial and periodic tower inspections and maintenance to assure safety and to extend the service life. It is recommended that major inspections be performed a minimum, every 3 years for guyed towers and every 5 years for self-supporting towers. Only authorized personnel, experienced in climbing and tower adjustments, should perform ground and aerial inspections

Some of the items listed below apply to new and existing tower infrastructures.

Tower Conditions (guyed and self-supporting)

Members

1. Bent members (legs and lacing)
2. Loose members
3. Missing members
4. Climbing facilities, platforms, catwalks-all secure
5. Loose and/or missing bolts

Finish on Tower

1. Paint and/or galvanizing condition
2. Rust and/or corrosion conditions
3. FAA or ICAO color marking conditions
4. Water collection in members must be remedied, e.g., unplug drain holes, etc to prevent corrosion.

Lighting

1. Conduit, junction boxes and fasteners weather tight and secure
2. Drains and vents open
3. Wiring condition
4. Controllers functioning, check flashers photo control, and alarms
5. Light lenses
6. Bulb condition (Option: change all bulbs at one time)

Grounding

1. Connections checked and secure
2. Corrosion observed and remedied
3. Lightning protection secure (as required)

Tower Base Foundation

1. Ground conditions a. settlements or movements
2. Erosion
3. Site condition (standing water, drainage, trees, etc)
4. Base condition a. Nuts and lock nuts tight
5. Grout condition
6. Concrete condition, i.e. crackling, spalling, splitting, chipped or broken, honeycombing, and low spots to collect moisture

Ground Conditions

1. Settlements or movements
2. Erosion
3. Site condition (standing water, drainage, trees, etc)
4. Base Condition a. Nuts and lock nuts tight
5. Grout condition

Concrete Condition

1. Crackling, spalling or splitting
2. Chipped or broken concrete
3. Honeycombing
4. Low spots to collect moisture

Guyed Towers A. Anchors

1. Settlement, movement or earth cracks
2. Backfill heaped over concrete for water shedding
3. Anchor rod condition below earth (12" minimum)
4. Corrosion
5. Grounding
6. Anchor head clear of earth

Tower Guys

1. Strand a. Type (1x7 EHS, 1x19 bridge strand, etc)
2. Size c. Breaking Strength
3. Elevation
4. Condition (corrosion, breaks, nicks, kinks, etc)

Guy Hardware

1. Turnbuckles (or equivalent) secure and safety properly applied
2. Cable Thimbles properly in place (if required)
3. Service sleeves properly in place (if required)
4. Cable connectors (end fittings)
5. Cable clamps applied properly and bolts tight
6. Preformed wraps properly applied, fully wrapped and sleeve in place
7. Wire serving properly applied
8. Strandvices secure
9. Poured sockets secure and showing no signs of separation
(Note: Connectors should show no sign of damaged cable or slippage)
10. Shackles, bolts, pins and cotter pins secure and in good condition
11. Guy Tensions should be checked by manufacturer's recommendations

Caution adjustments must and preformed carefully adjusted ensuring there are no improper tension settings to prevent damage to structure.

Notes: Variations in guy tensions are to be expected due to temperature and wind. These are minor variations. Should there be significant tension changes, the cause should be determined immediately and proper remedial action taken. Possible causes may be initial construction loosening, extreme wind or ice, anchor movements, base settlement or connection slippage.

Tension variations at a single level are to be expected because of anchor elevation differences, construction deviations, and wind effects.

Caution: Do not check or adjust guy tensions during times of excessive winds.

Antenna Mounts and Antennas

1. Members a. Bent, broken or cracked
2. Loose
3. Missing
4. Loose and/or missing bolts
5. Adjustments secure and locked

Elements

1. Bent, broken, cracked or bullet damaged
2. Missing
3. Loose or missing fasteners
4. Corrosion condition
5. Radomes or cover conditions

Feed lines (waveguide, coax, etc)

1. Hangers and supports condition
2. Quality
3. Corrosion condition
4. Flanges and seals (check integrity)
5. Line Condition, dents, abrasions, holes, leaks, and jacket condition.

Grounds

1. Top ground strap bonded both ends
2. Bottom ground strap bonded both ends

Feedline support (ice shields)

1. Properly attached
2. Loose and missing bolts
3. Members straight and undamaged.

These are basic guidelines, and there is always more to take into consideration. This document in no way satisfies a completes a competent inspection. All towers inspections must be by licensed tower companies.