MICROWAVE ANTENNAS
KS-5759 DELAY LENS ANTENNA
PERIODIC TEST INTERVALS

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1. GENERAL

1.01 This section outlines the inspection procedures which should be followed on the installed KS-5759 List 1, List 2, List 4, and List 5 Delay Lens Antennas and the associated assemblies.

1.02 *Reasons for Reissue:* To add information on the KS-5759 List 4 and List 5 Delay Lens antenna and make major changes in the inspection procedure.

1.03 Certain work operations mentioned in this practice may in most cases be carried out by concerns which specialize in tower maintenance, although it may be desirable to have a telephone company inspector present to ensure satisfactory performance. The precautions set forth here are, in general, directed toward the protection of telephone company personnel.

> ***Warning 1: When it is necessary for men on the ground to be within a horizontal distance of the tower less than 1/3 its height, protective hats should be worn if any work is being performed aloft at the same time. Every effort should be made, however, to avoid exposing ground personnel to the hazards of being struck by falling objects. Tools or items of material accidentally dropped from towers can inflict serious injury on personnel. Personnel not necessary to work operations should remain a safe distance away when operations are being conducted aloft (about 1/3 the height of the highest opation, or more). Similarly, motor vehicles should be kept a safe distance away from the tower in order to avoid damage from falling objects. Personnel working aloft should be instructed to exercise care to prevent tools or material from falling. Also, personnel working aloft should be cautioned to avoid touching air obstruction lighting fixtures when the lamps are burning as fixtures will be quite hot.***
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> ***Warning 2: It should be remembered that climbing towers is strenuous exertion; personnel should not climb more than about 25 feet without stopping and resting before climbing further, in order to avoid overexertion. Suitable protective equipment such as the tower body belt and a safety strap should be worn when climbing and working aloft on towers. Ice coated towers are much more hazardous because of the increased likelihood of slipping and the danger of being struck by falling ice, and work should be postponed until the condition clears.***

2. INSPECTION PROCEDURES

2.01 The following inspection procedures shall be carried out at the intervals specified on each antenna waveguide system mounted on a radio relay tower.

SCHEDULE OF INSPECTION PROCEDURES

Equipment	Inspection Procedure	Interval
Antenna Shell	Make a visual general inspection of the outside shell of the antenna for loose bolts, nuts, foreign matter, holes, and loose caulking. Observe carefully for signs of strain and corrosion.	Annually
Interior	Remove the access door in the bottom of the antenna horn assembly. ***Caution: When the system is operating with a full complement of 5 watt transmitters, the electromagnetic field in the region near the access door is not strong enough to constitute a radiation hazard. However, the field intensity increases toward the rear of the antenna, and the head should not be moved to any point to the rear of the access door when making inspections. Insert the head and neck inside the antenna only far enough to see the interior surfaces, and only for a period long enough to make the visual inspection. If any work must be done that requires complete entrance inside the antenna, it should be removed from service.*** Inspect the interior of the unit for water leakage, cracks and foreign items. Observe the condition of the aluminum tape seals. Check also that the rear surface of the lens sections are flush, except for the step above the two bottom sections, and free from foreign matter.	
Weather Cover	***Caution: When inspecting the antenna, avoid blocking the aperture (weather cover) when the system is operating.*** Examine the weather cover for holes, cracks, loose bolts, and weather tightness of the seals and framing members. The inspection for holes and cracks should be made at the antenna area. If impractical, inspection from the ground using optical aids may be substituted.	
Mounting Base and Mounting Frame Assembly	Check the condition of the azimuth, elevation, brace, roof and base fastenings.	
Flexible Waveguide	Examine the neoprene jacket for holes, cracks, crazing, dents, and deterioration between neoprene jacket and flange.	

SCHEDULE OF INSPECTION PROCEDURES (Contd)

Equipment	Inspection Procedure	Interval
Rigid Waveguide	Waveguide shall be checked for holes, dents, and misalignment.	Annually
Restrainers	Check visually the restrainers and restrainer plate for alignment, damage, rust, loose nuts and bolts, and foreign matter. Inspect the neoprene hood over the square restrainer for punctures, tears or cracks, and for loose fasteners.	
Waveguide Support	Check the waveguide support for corrosion, and loose nuts and bolts.	

3. CORRECTIVE ACTION

3.01 Foreign matter which has accumulated on the antenna and waveguide systems shall be removed by the inspector.

3.02 The inspector shall report his findings in detail to supervision for the initiation of corrective maintenance procedures.