

AIR NAVIGATION OBSTRUCTION  
MARKING AND LIGHTING FOR  
RADIO RELAY TOWERS AND BUILDINGS

1. GENERAL

1.01 This section covers the requirements for air navigation obstruction marking and lighting in connection with the design and construction of radio relay towers and buildings.

1.02 All tall structures, which are so located as to present a potential hazard to air traffic, are required by law to display painted markings and warning lights of a type and in a manner as covered in specifications prepared by the Federal Communications Commission (F.C.C.). The specification to be followed for each structure requiring this lighting depends upon the height of the structure and its location with respect to established airways and airfields, and is established by the Company in consultation with the F.C.C. To meet each of the specifications applicable to the various types of radio relay buildings and towers, circuit and equipment drawings covering arrangements of obstruction lighting and associated control equipment have been prepared. The Company selects the appropriate plan and arranges for its installation as part of the building or towers.

1.03 Specifications for obstruction marking and lighting of antenna structures of the Federal Communications Commission outline in detail the requirements for the painting and lighting of antenna structures, temporary warning lights during construction, inspection of tower lights and associated control equipment, recording of tower light inspections in the station record, cleaning and repainting, time when lights shall be exhibited, spare lamps, lighting equipment, and painting and lighting existing structures. Copies of this specification can be obtained from the office of Federal Airways, Civil Aeronautics Administration, Department of Commerce or from the Government Printing Office.

1.04 These specifications contained in Subpart C of Part 17, Rules Concerning the Construction, Marking and Lighting of Antenna

Towers and Supporting Structures became effective March 30, 1953 and may be subject to change or revision from time to time.

2. OBSTRUCTION MARKING AND LIGHTING

2.01 In general, antenna structures are painted with alternate bands of aviation surface orange and white and are lighted with standard F.C.C. obstruction lighting when:

- (a) They require special aeronautical study; or
- (b) They exceed 170 feet in height above the ground.
- (c) The F.C.C. may modify the above requirements for painting and/or lighting of antenna structures, when it is shown by the Company that the absence of such marking would not impair the safety of air navigation, or that a lesser marking requirement would insure the safety thereof.

2.02 The continuously lighted 111-watt lamp enclosed in an aviation red prismatic globe is covered by Drawings SD-81113-01 and ED-81198-01. The 300-millimeter flashing beacon employing two 620-watt lamps enclosed in a red Fresnel lens, with or without sidelighting, is covered by Drawings SD-81114-01 and ED-81199-01.

2.03 Control: The control equipment for obstruction lighting is wall mounted and so arranged that immediate alarms are indicated upon the failure of this apparatus, lamps, etc. The equipment is designed for operation from 115-volt service obtained from a distribution cabinet served by the reserve engine alternator set. In cases where the commercial ac power supply is such as to make its use necessary, a 230-115 volt transformer is available on an optional basis to give the desired voltage. This transformer is furnished and installed by the Company.