Technician Question Pool July 2022 to June 2026

The MORE Project

http://n2re.org/m-o-r-e-project



Electrical Safety No-Nonsense pages 71 - 73

Antenna and Tower Safety

Antenna safety is also of primary concern. There are two aspects of antenna safety: being safe when installing an antenna, and safely operating an antenna.



Which of the following is an important safety precaution to observe when putting up an antenna tower?

- A. Wear a ground strap connected to your wrist at all times
- B. Insulate the base of the tower to avoid lightning strikes
- C. Look for and stay clear of any overhead electrical wires
- D. All of these choices are correct



ES2 Q1 of 14

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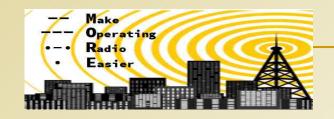
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ES2 A1 of 14

What is the minimum safe distance from a power line to allow when installing an antenna?

- A. Add the height of the antenna to the height of the power line and multiply by a factor of 1.5
- B. The height of the power line above ground
- C. 1/2 wavelength at the operating frequency
- D. Enough so that if the antenna falls, no part of it can come closer than 10 feet to the power wires



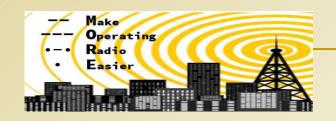
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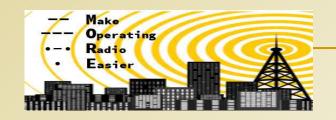
Why should you avoid attaching an antenna to a utility pole?

- A. The antenna will not work properly because of induced voltages
- B. The 60 Hz radiations from the feed line may increase the SWR
- C. The antenna could contact high-voltage power lines
- D. All of these choices are correct



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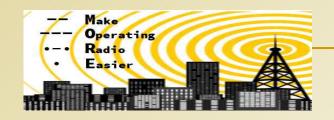
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T0C07

What hazard is created by touching an antenna during a transmission?

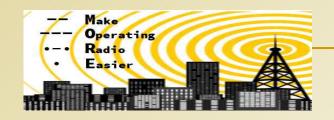
- A. Electrocution
- B. RF burn to skin
- C. Radiation poisoning
- D. All of these choices are correct



T0C07

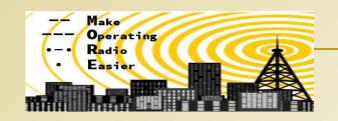
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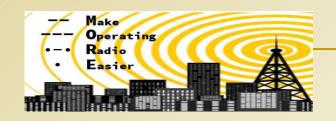
What is required when climbing an antenna tower?

- A. Have sufficient training on safe tower climbing techniques
- B. Use appropriate tie-off to the tower at all times
- C. Always wear an approved climbing harness
- D. All these choices are correct



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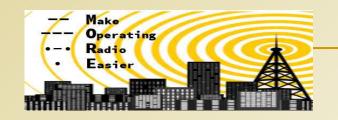
Under what circumstances is it safe to climb a tower without a helper or observer?

- A. When no electrical work is being performed
- B. When no mechanical work is being performed
- C. When the work being done is not more than 20 feet above the ground
- D. Never



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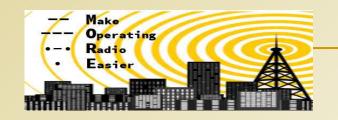
Which of the following is an important safety rule to remember when using a crank-up tower?

- A. This type of tower must never be painted
- B. This type of tower must never be grounded
- C. This type of tower must not be climbed unless it is retracted, or mechanical safety locking devices have been installed
- D. All of these choices are correct



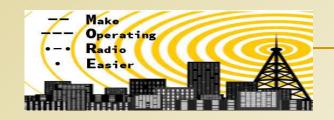
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What is the purpose of a safety wire through a turnbuckle used to tension guy lines?

- A. Secure the guy line if the turnbuckle breaks
- B. Prevent loosening of the turnbuckle from vibration
- C. Provide a ground path for lightning strikes
- D. Provide an ability to measure for proper tensioning



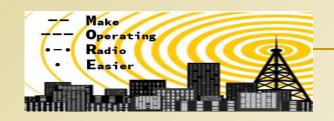
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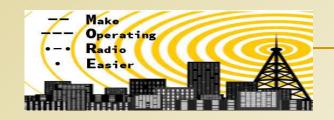
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- A. FCC Part 97 Rules
- B. Local electrical codes
- C. FAA tower lighting regulations
- D. UL recommended practices



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Which is a proper grounding method for a tower?

- A. A single four-foot ground rod, driven into the ground no more than 12 inches from the base
- B. A ferrite-core RF choke connected between the tower and ground
- C. A connection between the tower base and a cold water pipe
- D. Separate eight-foot ground rods for each tower leg, bonded to the tower and each other



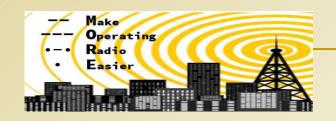
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Which of the following is good practice when installing ground wires on a tower for lightning protection?

- A. Put a drip loop in the ground connection to prevent water damage to the ground system
- B. Make sure all ground wire bends are right angles
- C. Ensure that connections are short and direct
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Which of the following is true when installing grounding conductors used for lightning protection?

- A. Use only non-insulated wire
- B. Wires must be carefully routed with precise right-angle bends
- C. Sharp bends must be avoided
- D. Common grounds must be avoided



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What should be done to all external ground rods or earth connections?

- A. Waterproof them with silicone caulk or electrical tape
- B. Keep them as far apart as possible
- C. Bond them together with heavy wire or conductive strap
- D. Tune them for resonance on the lowest frequency of operation



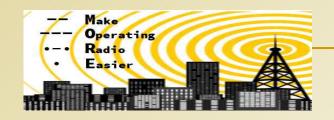
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Where should a lightning arrester be installed in a coaxial feed line?

- A. At the output connector of a transceiver
- B. At the antenna feed point
- C. At the ac power service panel
- D. On a grounded panel near where feed lines enter the building



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A non-profit initiative by the IEEE and ARDC to increase the numbers of youth (12-18) and non-males in Amateur Radio. Participants earn FCC licenses and receive free 2-way radios.

For MORE information: n2re.org/m-o-r-e-project Dr. Rebecca Mercuri, Grant Administrator, rtmercuri@ieee.org

