6. Radio Safety Precautions

- Never operate radios with the cover off.
  - The case keeps the RF radiation in.
- Exposure to high levels of RF can cause burns and cancer
  - Human eyes especially sensitive to RF.
  - Keep antennas out of reach.
- Hams required to conduct a "routine station evaluation" to verify safe operation
  - Usually done by consulting a chart.

Radio Safety

- Make sure the power is disconnected before working.
  - Electric shock can hurt or kill.
- Even with the power off, some parts inside the radio can hold a dangerous charge.
  - If you don't know what you are doing, get help.
- Disconnect radios when not in use
- Connect antennas to ground when not in use

Antennas & Towers

- Make sure antennas cannot touch power lines
  - you could be electrocuted when using the radio.
  - ***NEVER*** OVER or UNDER power lines
  - Where they could fall on a power line in any direction

- Where a person could touch the antenna
- Be careful working on towers and roofs
  - You could fall or hurt someone on the ground.

Grounding

- AC Outlet Grounding
  - Ground wire connected to house wiring.
  - Equipment uses 3 prong plugs to ground equipment case.
  - If wire inside touches case, house circuit breaker is opened.
- Direct Current Grounding
  - Hams add another ground rod and connect all of their station equipment cases to it as well.
  - Provides additional safety and grounds any stray RF.
- Antenna Grounding
  - Use lightning protectors where antennas enter the house.
  - These bleed off static electricity.
  - No protection to a direct strike.

Lightning Protection

- Antenna pole connected to ground rod
- Disconnect radios if lightning is in the area
- Lightning can hit your antenna and travel down your lines to the radio.
  - Make sure your antenna and radio are grounded to a good earth ground.
  - Don't operate in thunderstorms.

Safety With Electricity

- Minimum fatal voltage is only 30 volts, much less than a wall socket!
- Minimum fatal current if passed through the human heart – 1/10th of an amp, much less than most kitchen appliances.
- Power lines are un-insulated and carry thousands of volts – never touch them!