



The

# **Broadcasters' Desktop Resource**

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... edited by Barry Mishkind – the Eclectic Engineer

## **Broadcast Operations**

### **Safety Suggestions to Keep Everyone Alive**



**By Richard Rudman**

*[September 2010] Whether a station is off the air or the engineer has arrived for routine maintenance, it is important to know about and identify dangerous voltages, currents, or other physical dangers. By not allowing outside issues or people to rush or pressure you, you will be much more likely to live to engineer another day. The following suggestions can be used reduce the possibility of accidents.*

Promoting on-site safety is something that costs relatively little but can prevent expensive and damaging accidents, both to equipment and – more importantly – to personnel (that is you!).

#### **THE FIRST THING**

Before doing any work, whenever you arrive on site, even during that pressure-packed emergency called “we’re off the air!” by using the following checklist you can keep yourself alive and safe.

- **Do not work alone.** Ask for a person to stand by to watch or help while you tackle potentially dangerous circuits (or other potentially dangerous conditions). This includes, but is not limited to, climbing tall extension ladders.
- **If you must work alone** at a remote site or hilltop, **call someone off-site** to tell them you will call back when you are clear, and to send help if you are not heard from at a set time.
- **Disable the remote control system.**
- **Buy a "Lock-Out / Tag-Out" kit** from Grainger or some other supplier of safety equipment.
- **Use the "Lock-Out / Tag-Out" kit!** whenever you have to deactivate breakers in order to work on equipment.

This is especially important if the facility is shared – or there are just a lot of different people who have access while you are fixing whatever it is you turned off the breaker to work on. This is not just for electrical safety. Machinery that starts to rotate when you least want it to because some dolt turned on a breaker could lead to a trip to the site medical kit for you, if you are able to crawl to it.

- **Always check the connections and cable integrity of the built-in shorting sticks**, especially on older transmitters and RF cabinets. Over time, many can become ineffective.
- After checking those shorting sticks, ***always use them!*** Use them even if you do not think there is high voltage in the area in which you are working. It is not a bad idea to lay the sticks across the high voltage connections while you are working.
- **Keep a hand in a pocket** until you are sure the gear is completely safe.
- **Remove metal jewelry** from your arms and fingers when working on electronics. Never mind 110 AC. Think of what a metal ring could do to your ability to shake hands after a too-close encounter with a low voltage DC circuit that has appreciable amperage.
- **Always test whatever meter or other device** you use to see if circuits are alive or dead first on a known live circuit.
- Remember that **wet floors near electrical panels can be hazardous** to your health.
- Avoid working on potentially hot circuits while you are stressed, angry, rushed, tired – or hungry.
- **Carefully check the labeling of all breakers** in your facility. How often have you found a breaker labeled for some circuit actually turned something else off? (This suggests a good project for a non-emergency maintenance visit.)
- **Always assume a transmitter you have never worked on before has defeated interlocks and/or other conditions** that could send you to the morgue. When you find out your assumption was correct, set it right!
- **Remember, a dead engineer cannot fix anything.**

Be careful, be safe, stay alive!

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**[Return to The BDR Menu](#)**