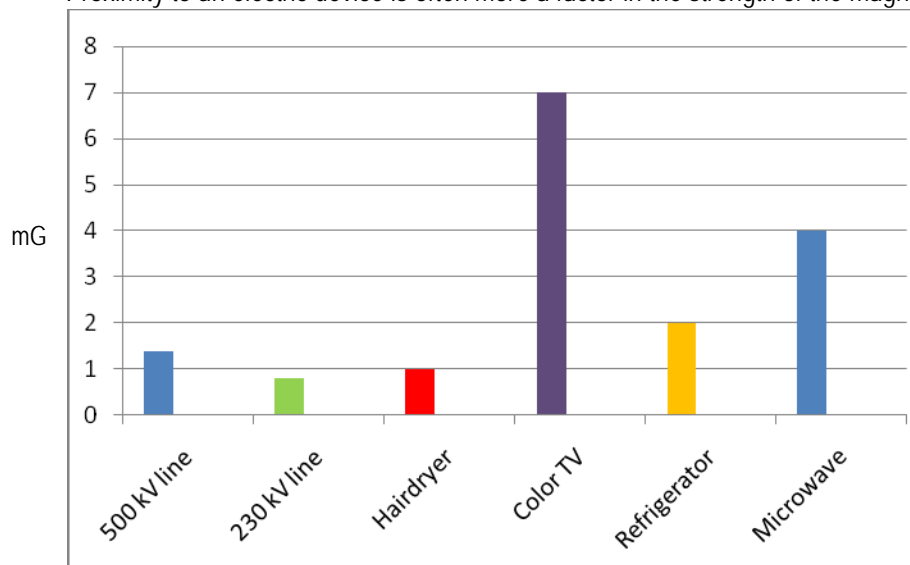


## Electric and Magnetic Fields

- Progress Energy Florida is committed to providing electric service safely for our customers and a safe working environment for our employees.
- The company funds, participates in and monitors research aimed at answering questions and addressing property owners' concerns about electric and magnetic fields (EMF).
- In addition, Florida is one of the few states that regulates electric and magnetic fields near transmission lines and enforces specific standards. Any lines Progress Energy builds must meet these standards. The Florida Environmental Regulation Commission rule of 1989 limits EMF from new transmission lines and substations.
  - Electric fields are limited to 2 kilovolts per meter at the edge of the right of way
  - Limits on magnetic fields at the edge of the right of way depend on the voltage of the line:
    - For 69kV to 230kV lines, the limit is 150 milligauss
    - For 500 kV lines, the limit is 200 milligauss
- Electric fields are created by voltage present when an appliance remains plugged in, even when it is switched off. Magnetic fields, by contrast, only are present when electric current is flowing in wires, so if an appliance is switched off it will normally not create magnetic fields.
- Extremely low-frequency electric and magnetic fields are all around us – not just in power lines, but also in electrical wiring in buildings, electric motors and appliances, TVs, computers, hair dryers, etc.
- Proximity to an electric device is often more a factor in the strength of the magnetic field than the size of the device.



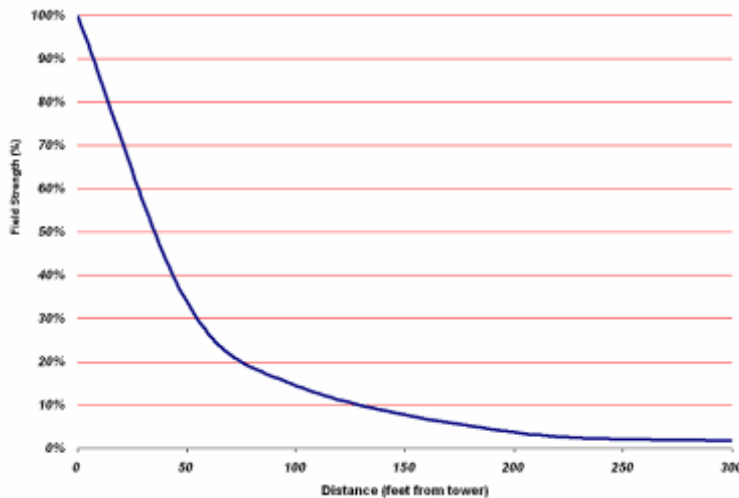
### Relative magnetic field strengths of appliances:

The chart compares the mean magnetic field strength at 300 feet from 500-kV and 230-kV lines and the median magnetic field strength one foot away from common electrical appliances. A 500-kV line is the highest voltage line in Progress Energy's system.

SOURCE: NIH EMF "Electric and Magnetic Fields Associated with the Use of Electric Power," June 2002

- You are likely to be exposed to higher magnetic fields from some household appliances than from nearby power lines.
    - For example, standing directly under a 230-kV power line will expose a person to about 58 milligauss of magnetic fields – that is about the same as they would experience vacuuming their home (60 mG from 1 foot away).
    - That is about five times **less** than exposure from a hairdryer (300 mG from 6 inches away).
- [SOURCE: NIH EMF "Electric and Magnetic Fields Associated with the Use of Electric Power," June 2002]

- Numerous studies have been conducted over the past 30 years in an attempt to determine whether an association exists between exposure to electric and magnetic fields and human health. After significant research, there is still no definitive association between the two.
  - There have been studies that pointed to some correlation between EMF and human health, and others that found no link at all.
  - Virtually all laboratory studies on animals and cells have failed to establish a consistent link between EMF and human health.
- An EMF report, completed by the National Institute of Environmental Health Sciences to the U.S. Congress, states, "The lack of connection between the human data and the experimental data (animal and mechanistic) severely complicates the interpretation of these results." Given the limitations of current scientific knowledge, we are not able to determine the potential effect of EMF on human health.
- What scientists do know is that electric and magnetic fields dissipate rapidly as you move away from the source.
  - For example, the magnetic field of a 500,000-volt transmission line drops by about 98 percent just a few hundred feet from the transmission wires. At a distance of 300 feet during average electricity demand, the magnetic fields from transmission lines would be similar to typical background levels found in most homes.



Representative magnetic field intensity for a 500-kV transmission line. Intensity drops dramatically the further you are away from the power line. (based on data from Bonneville Power Administration).

- Acting responsibly toward the environment is a vital part of our overall commitment to customers, investors, employees and neighbors. Customers with questions about electromagnetic fields can call the Customer Service Center at 1-800-700-8744.
- For more information on EMF, see "Results of EMF Research – EMF Questions and Answers Booklet" at the National Institute of Environmental Health Sciences' EMF Web site at: [www.niehs.nih.gov/health/topics/agents/emf/](http://www.niehs.nih.gov/health/topics/agents/emf/)

For more information, please visit our website at [www.progressenergy.com/energyplanning](http://www.progressenergy.com/energyplanning)