

The following rule additions are submitted by Dr. Campbell McLaren and are based on the precautionary principle and prudent avoidance.

The premise is that children living in a magnetic field of more than 2-4 milligauss have double the incidence of leukemia.

See RAPID, IARC and WHO studies referenced in Dr. Campbell McLaren's submission on the SEC Rulemaking docket; March 5, 2015.

Referencing chapter site 300 certificates of site and facility.

To be added to 301.03 (g) (9) : *Provide all assumptions used to model magnetic field levels*

including:

-Pole design diagram that includes the dimensions of pole arms, dimensions of conductor locations, horizontal distance from the pole to the conductors, and the distance of conductors from the ground at the pole.

-Height of lowest conductor(s) at mid-span.

-Depth from ground surface to circuits, for underground construction

To be added to 301.03 (h) (6): *Information regarding the cumulative impacts on human health, constantly evaluated and assessed by attention to (in accordance with?) evolving scientific evidence.*

To be added to 301.08 (b) (1) For Electric Transmission Facilities:

a. The number and type of each building or area within the following distance categories- as estimated from the edge of the ROW: 0-25 feet, 26-50 feet, 51-100 feet, and 151-300 feet. Types of building include homes, apartments, schools, daycare centers, hospitals, commercial/industrial buildings and playgrounds.

b. Detailed magnetic field profiles for each unique structure type or circuit configuration (new

and existing) M.R. profiles to be measured from the ROW centerline out to a distance of 300 feet on each side of the centerline, at intervals of 25 feet, including at the edge of the ROW at one meter above ground level.

c. For routes that would affect existing electric lines, provide magnetic field profiles for the existing lines and a post-construction scenario that incorporates the new and the existing lines.

d. For routes that would have multiple adjacent underground circuits, provide magnetic field profiles for each set of circuit configurations.

e. Estimated magnetic field data which include:

1. estimate for proposed lines at 80 percent and at 100 percent of peak load for one year post-construction and 10 years post construction. For existing lines, use present day loadings to estimate the magnetic field levels.

2. provide expected current levels for 80 and 100 percent of peak load at one and ten years post-construction.

To be added to 301.08 (c) (5):

Suggested mitigation may include, but not be limited to;

(a) increase distance between the transmission line and the public's exposure to the magnetic Fields

(b) bring lines closer together (magnetic fields interfere with one another, producing a lower overall magnetic field level, too close could cause arcing between the lines.)

(c) bury transmission lines to reduce magnetic fields. (Underground lines can be installed closer together and insulated with rubber, plastic or oil)

Different States have ? setback mG levels at the edge of the ROW in order to mitigate public health and safety impacts.

Exhibit B:

Massachusetts:

The Commonwealth of Massachusetts has defined an edge-of-ROW level of 85 mG as a benchmark for comparing different design alternatives. Although a ROW-edge level in excess of this value is not prohibited, it may trigger a more extensive review of alternatives.

New York

New York has a policy that required transmission lines to be designed, constructed and operated so that magnetic fields at the edges of the ROW will not exceed 200 mG.

Florida

Florida limits magnetic fields at the edge of the ROW to 150 mG for transmission lines with voltages of 69 kV through 230 kV. For lines greater than 250 kV, the limit is 200 mG. Double circuited 500 kV lines and lines greater than 500 kV may not exceed 250 mG, also at the edge of the ROW.

Wisconsin.

Until the mid-2000s Wisconsin followed a policy of prudent avoidance. Under the policy, the Public Service Commission, which holds full jurisdiction over transmission siting, could mandate changes to the transmission line route based on mG levels at nearby residences. Today the PSC typically responds to concerns raised by abutters under a hardship finding.

At the very least, schools, day-care centers, youth camps and playgrounds must be more than 300' from the center of the most proximate transmission line.

Please see Campbell McLaren's submissions on the SEC site, Rulemaking docket 2014-04:

February 16, 2015 (two submissions)

February, 20, 2015

March 5, 2015

September 16, 2015