After several decades of study regarding potential public health risks from exposure to power line EMF, research results remain inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude that EMF causes cancer. The International Agency for Research on Cancer, an agency of the World Health Organization (WHO), and the California Department of Health Services (DHS) both classified EMF as a possible carcinogen (WHO, 2001; DHS, 2002).

In addition, the 2007 WHO [Environmental Health Criteria (EHC) 238] report concluded that:

- Evidence for a link between Extremely Low Frequency (ELF, 50–60 Hz) magnetic fields and health risks is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukemia. However, “...virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic fields and changes in biological function or disease status....the evidence is not strong enough to be considered causal but sufficiently strong to remain a concern.”

- “For other diseases, there is inadequate or no evidence of health effects at low exposure levels.”

Currently, there are no applicable national standards or California regulations related to EMF levels from power lines or substations. However, following a CPUC decision from 1993 (Decision [D.]93-11-013) that was reaffirmed by the CPUC on January 27, 2006 (D.06-01-042), the CPUC requires utilities to incorporate “low-cost” or “no-cost” measures to mitigate EMF from new or upgraded electrical utility facilities up to approximately 4 percent of total project cost. To comply with this requirement, SCE developed and included a Field Management Plan (FMP) as part of the application for the proposed Project to reduce magnetic field levels in the vicinity of the transmission line.

**B.6.2 EMF in the Proposed Project Area**

Magnetic field strength is a function of both the electric current carried by the wires, and the configuration and design of the three conductors that together form a single circuit of an electric transmission line. Exposure to EMF occurs in the community from sources other than electric transmission lines. Research on ambient magnetic fields in homes indicates that levels below 0.6 mG (milligauss) could be found in half of the studied homes in the centers of rooms, and that the average levels in the homes away from electrical appliances was 0.9 mG. Immediately adjacent to appliances (within 12 inches), field values are much higher, for example: 4 to 8 mG near electric ovens and ranges, 20 mG for portable heaters, or 60 mG for vacuum cleaners (NIEHS, 2002). Outside of the home, the public also experiences EMF exposure from the electric distribution system that is located throughout all areas of the community. Existing EMF levels along SCE’s existing 115 kV corridor are indicated in Table B-16 (Magnetic Field Levels along Existing 115 kV Transmission Corridor) and are discussed in greater detail in SCE’s Field Management Plan (Appendix F of SCE’s application; SCE, 2014c). Figure B-9