EIA activity 1

13.What are the direct effects of EMF exposure on the human reproductive outcome (100 kHz – 300 GHz)? Are the studies conclusive? (G6 – G41 – G27 – G14)

For human, when the tissue are exposed to RF energy (the EM waves in the range of 100 KHZ to 300 GHZ) this will lead to thermal effects on the tissue that may damage the tissue and this depends on the duration of the exposure and the frequency of the wave, when the human body’s temperature is raised the blood circulation tries to dissipate the excessive heat using blood flow, for males testes have lack of the blood flow so it would be harmful if they exposed to RF radiation.

Some scientists discovered that when the exposure for a short time to a high level RF energy, this may lead to temporary sterility due to changes in sperm nature.

Reference: FCC\_Effects of RF Exposure

22. What are the SAR limits as basic restrictions according to Canada Safety Code 6? (G15 – G6 – G12)

SAR (specific absorption rate): is the measure of the energy of the EM radiations that is absorbed by human’s body per unit of mass, this limitations shouldn’t be exceeded for the EM waves in the range of 100 KHZ up to 6 GHZ (which causes thermal effects to the human tissue).

Scientists have found that the human body temperature is changed by 1C when the exposure SAR is 4 watt/kg for the controlled areas that apply this limitations and care about human health, so the scientists put a safety factor of 10 to reduce the exposure SAR to 0.4 watt/Kg.

For the other parts like neck, head and trunk the SAR limit is 8 watt/Kg and for the limbs is 20 watt/Kg.

For the uncontrolled areas that don’t apply this limitations, scientists put a safety factor of 50.

Reference: Canada\_SafetyCode2009