

RF Radiation Hazard Study

The near-field power density of the 5.4-meter earth station antenna proposed in this application has been calculated as 0.174 mW/cm². This exhibit confirms that the flux density level is well within 5% of the maximum safe limits of 5 mW/cm² for occupational/controlled access in all calculated regions and within the recommended limit in the region between the main reflector and sub reflector. In addition, the general population will not have access to the transmitting site. In the event workers or other authorized personnel enter the restricted area, appropriate measures shall be taken to limit RF energy exposure, including the termination of transmissions.

Site

The antenna is placed in an open field adjacent to an existing building. The antenna site is part of a large facility which is encompassed by an existing eight-foot high perimeter chain-link fence topped with barbed wire. The shortest distance between the perimeter fence and the antenna is approximately 400 feet. An additional eight-foot chain link security fence is installed immediately surrounding the antenna. Access is controlled by armed guards and turnstiles requiring a badge and pass code at all entrances to the facility. The general population does not have access to the transmitting site.

Because of the site location, any antenna used for NGSO satellite communications must point in northerly and/or southerly directions. The general pointing directions of the proposed antenna is away from residences and other occupied structures, including the adjacent building where employees are located. Radiation exposure is minimized by software, which disables the transmitting capability below a predetermined elevation angle. The transmitter is enabled at a minimum of 5 degrees elevation, ensuring transmissions will radiate in an upward direction. The height of the antenna in addition to transmitting at 5 degrees or greater elevation makes it impossible for individuals to be within the radiation beam.

Occupational/Controlled Access

Access to the antenna is controlled via the locked fence surrounding the antenna. If work is performed on the antenna structure itself, transmission power is terminated until the work is complete and the restoration of power does not pose a threat to workers. Site personnel are not permitted to repair, maintain, or approach the proposed antenna while transmitting.