

## RF RADIATION HAZARD ANALYSIS

### Exhibit #B

Antenna Dia. (D)=1.4 Meters 4.593 Feet  
Antenna Surface Area (SA)=1.5392 sq meters  
Subreflector Dia. (DS)=N/A (prime focus offset)  
Subreflector Surface Area (AS)=N/A (prime focus offset)  
KU Wavelength at 14.250 GHz (LAMBDA)=.0211 meters  
Power at output of HPA flange=21.763dB  
Path Loss to OMT (IL)=.2 dB  
Power at OMT Flange (P)=146.083 watts (21.646dB)  
Antenna Gain at 14.250 GHz (G)=45.9 dBi  
Antenna Gain given in Power Ratio (GES)=.4067E+04  
Antenna Aperture Efficiency (N)=.6191

| <u>Region</u>                                   | <u>Radiation Level</u>                  | <u>Hazard Assessment</u> |
|---|---|--------------------------|
| Far Field (RF) 92.133 m 302.287 ft              | 21.769 mW/cm sq                         | Potential Hazard         |
| Near Field (WF) 38.389 m 125.95 ft              | 50.59 mW/cm sq                          | Potential Hazard         |
| Transition Region (RT)<br>Ru<Rt<Rf              | equal to or less than<br>50.59 mW/cm sq | Potential Hazard         |
| Between Main Reflector and<br>Subreflector (WS) | N/A                                     |                          |
| Main Reflector Region (WM)                      | 40.858 mW/cm sq                         | Potential Hazard         |
| Power Density Between Reflector<br>and Ground   | 20.429 mW/cm sq                         | Potential Hazard         |

**Conclusion:** Based on the above analysis, harmful areas of Radiation do exist in areas around the antenna and in the path of the antenna toward the satellite that it is pointed at. The Area occupied by the general public will not exceed the ANSI limit of 1 mW cm sq. because the antenna is mounted at least 6 feet above the ground, and safety increases with look angles used by the Satellites in the United States on Domestic Satellite arc. The Antenna will be marked with the standard radiation hazard warnings. The warning signs will warn personnel to avoid the area around and in front of the reflector when the transmitter is operating. To ensure compliance with safety limits, the earth station transmitter will be turned off and marked to remain off whenever maintenance and repair personnel are required to work in the areas of potential hazard as defined in the above study. Additionally the earth station personnel will be trained to insure that the antenna path is clear at all times while the transmitter is in operation