#7 NARRATIVE – EXPERIMENTATION DESCRIPTION

This research project requires Georgia Institute of Technology, Georgia Tech Research Institute, Severe Storms Research Center, be granted an FCC license to operate a type accepted Furuno Marine Radar unit operating on the frequency of 3.050 (+/- 30 MHz) GHz, with a pulsed transmitted power of 60,000 Watts. The radar will be used to detect and map Plasma generated by lightning within 4 to 10 miles of the radar. The project is designed to study the backscatter characteristics of the lightning generated plasma.

The experiment is designed to determine the approximate electron density of the plasma within and along the lightning trail. This experiment is part of a Research Program initially funded by the Governor's Office, State of Georgia, for the Georgia Emergency Preparedness Agency under a $1,000,000 sponsored research project to study early detection of Tornadoes.

It is requested that the radar allowed to be operated Fixed Transportable. The radar may be transported within a radius of 5,000 feet of the proposed fixed location. It is anticipated that the radar antenna will be located at the proposed fixed site, but it may be found that by moving the antenna to another location near the proposed fixed site any beam blockage by buildings and other objects that attenuate microwave frequencies may be alleviated. If operated Transportable the antenna may be building mounted or mounted on a low tower with a height less than 75 feet AGL. The final location of the radar will depend on the blockage pattern found to exist at the proposed fixed location.