

Form 442 Question 6: Description of Research Project

a. A description of the nature of the research project being conducted.

This is a NSF sponsored CubeSat experiment for the purpose of detecting gravity waves by taking in-situ measurements of ion and neutral densities in the upper atmosphere.

b. A showing that the communications facilities requested are necessary for the research project.

The Wallops ground station is necessary to have sufficient bandwidth for downloading scientific data. The ground transmitter at Wallops is used for telecommand to control data download. The Illinois station is necessary to have 24-hour access to the satellite systems. The two radios on the satellite are necessary to communicate with both ground stations.

c. A showing that existing communications facilities are inadequate

The satellite has not been launched. There is no available ground station at Illinois that fulfills the needed function.