The Center Director Discretionary Fund (CDDF) Chamber simulates the environment of space by providing a plasma discharge under which a sample is tested. The system was not functional and has been identified as in need of upgrade and automation. The upgrade process would result in a chamber that is automated and stable. A personal computer in conjunction with a programmable controller would be used to control a system, and all manual valves would be automated.

The system would be made stable by increasing its monitoring capabilities as well as creating closed loop sub-systems. Completion of the Upgrade process would result in the user having complete control and monitoring capabilities through a graphical user interface (GUI).