## 9.0 CONCLUSION (Continued)

Technical Means, generally the spacecraft tracking data derived by ground based radars or optical installations. This would exhibit the advantage of providing a more economical overall system with more countries participating in its operation.

With the observational, legal/political questions of the study answered in the affirmative, attention turned to the answering of the third question:

> "Would the observational requirements and the political constraints of a governing treaty permit a viable mission and spacecraft design?"

The question was answered in two parts:

(a) The mission analysis operations

(b) The spacecraft concept design

Of the three mission operation alternatives examined in the course of the study, the rendezvous scenario was concluded as the most feasible alternative over the launch on demand scenario and the fly-by scenario. The rendezvous scenario presented the least demands from the payload sensor performances and provided the greatest operational flexibility to perform the most powerful analysis of the target spacecraft's function through co-orbiting over an extended period of time. Such benefits did not come without associated penalties. Just as a significant amount of energy is required to place a mass into an orbit in space, the Paxsat spacecraft would require a considerable, though not excessive, consumption of fuel to change its orbital inclination and altitude in order to carry out a particular intercept requirement. In addition, the placement of the Paxsat spacecraft into initial loiter or parking orbits may require up to a maximum of 90 days before the Paxsat spacecraft is on-station beside the target spacecraft. Such a period of time was judged as a politically acceptable and was employed to minimize the expenditure of fuel to enable the Paxsat spacecraft to conduct multiple missions under ideal conditions. The quantization of military satellites into four orbital domains enables a Paxsat system of four satellites to