

Previous studies have shown that geographical distribution of the facilities is an important factor in determining costs for data collection. Since the geographical distribution of the facilities to be monitored under the future Convention is not yet known, the following three configurations have been postulated: a) a substantial number of facilities is within a small geographical area, which also contains the headquarters of the Technical Secretariat; b) a high concentration of facilities exists somewhere far away from the headquarters of the Technical Secretariat; c) the facilities are scattered widely around the globe. The data-collection system analyzed in the U.S. study is based on combinations of these configurations. In the study it was found that the capital costs under the various assumed scenarios converge as the number of facilities approaches 500; therefore, the cost estimates presented in this paper are based on a system of 500 facilities. If the number of facilities is much larger than 500, the increase in capital costs will consist primarily of equipment costs and will be proportional to the number of additional facilities. The impact of the system development costs will be insignificant for such large number of facilities. On the other hand, the operating costs will not be proportional to the number of facilities, because satellite service charges are based on transponder leasing. Each transponder can accommodate a maximum number of system data and it has a fixed leasing cost regardless of how much capacity is utilized. As the number of facilities increase beyond 500 there would be a need for additional transponders causing a quantum increase in the operating costs of the system. Since neither the actual number of facilities nor their geographical distribution are not known, parametric studies involving a larger number of facilities would not provide significantly greater insight into the issues addressed in this paper.

Most information would flow from the facility to the Technical Secretariat. This might include reports or requests from inspectors, data submitted by the facility, or data generated by on-site monitoring instruments installed for verification purposes.

Information might also be transmitted from the Technical Secretariat to the facility. This could include instructions to the inspectors, reference data from a central data base requested by inspectors, and electronic checks of monitoring instruments.