Abstract

This paper examines the problem of verification system effectiveness in monitoring compliance with a conventional arms reduction agreement. As background, a chronology of conventional arms control proposals from 1985 to 1989 is presented, highlighting measures variously suggested for an MBFR or CFE verification regime. The paper then briefly discusses military and civilian surveillance technologies available for wide-area coverage, i.e., aerial and space-based monitoring systems. Finally, a verification model derived from the binomial probability distribution is introduced. This model demonstrates the relationship between various operational factors and the effectiveness of overhead systems in detecting inadvertent yet militarily significant treaty violations. As the operating parameters for many of these factors will be defined by treaty, it is essential that negotiators understand their relationship to verification system effectiveness.