

neutrons to check for atmospheric blasts. On September 22, 1979, a Vela satellite detected an incident which suggested that there was a nuclear test off South Africa's coast, but a controversy developed when the evidence did not permit confirmation of a detonation.

These systems, however, can be fooled either intentionally or unintentionally. The author cites several examples. In the past, US intelligence experts considered these incidents to be anomalies, but officials of the Reagan administration now claim that US monitoring technology is no longer competent to verify treaty compliance. The author cites as examples of future problems for monitoring: the SS-24 rail mobile ICBM whose transporter will be indistinguishable from ordinary rail cars, nuclear armed cruise missiles which are indistinguishable from their conventionally armed siblings, and the US ASAT system based on a modified F-15 fighter which is indistinguishable at a distance from an ordinary F-15.

In the case of cruise missiles, on-site inspections to detect the nuclear warhead's radioactive emission, will probably have to take place at production or deployment sites and possibly at both. But first every production site must be identified and monitors must be created and installed which can detect every weapon but not sensitive design and production information. Ports might have to be monitored and ships boarded. The only actual experiment with an on-site weapons detection system was carried out in 1984 at the General Dynamics cruise missile production plant in San Diego where a small, tamper-resistant television camera was placed outside the gate and attached to a cable that detected the passage of trucks. This preliminary experiment worked. Other devices used in nuclear power plant monitoring might also prove useful, such as tamper-proof identification plates. These would be attached to weapons at production plants and later checked at deployment sites. But such systems require a high degree of intrusion.

A concerted effort to develop new verification technologies is needed. However, open portions of the US verification budget indicate that effort has slackened considerably in recent years; for example, the funding for new verification projects at Los Alamos Laboratory was reduced by 25% between 1984 and 1985. One exception to this trend was the addition by Congress of \$7.5 million to the verification budget of the Department of Energy.