

EDITOR'S NOTE

Fifteen years after the end of the Cold War, the U.S.A. and Russia still keep large number of nuclear missiles on high alert, ready to be launched within tens of minutes of an order to do so—thus inexcusably heightening the risks of accidental, unauthorized, and inadvertent use of nuclear weapons. It makes great sense for both countries to move with deliberate speed to take their missiles off of high alert. But in the meantime, as this is being done, it is critical for each side to find ways continually to reassure the other that missiles have not been launched. The first article in this issue, by Jurgen Altmann, puts forward an innovative idea on how to do this: for the two countries to deploy cooperatively acoustic-seismic sensors near the silos of intercontinental ballistic missiles (ICBMS), which could detect the launch of the missiles. In the view of the author, such deployment could be done relatively quickly and inexpensively.

The following article, by Frank von Hippel and Jungmin Kang, addresses a different kind of threat—that posed by plutonium. The U.S.A. has long recognized the dangers of separated plutonium and for proliferation reasons has consistently opposed the reprocessing of spent fuel in civil nuclear programs. However, recently many in the U.S. Administration have favored developing a reprocessing strategy which in their view would “optimize the use of the [Yucca Mountain] repository and possibly reduce the need for future repositories,” and which they believe could be done in a proliferation resistant manner. In the schemes being proposed, the plutonium would never be completely separated, but would always remain mixed with other transuranics (notably, neptunium) and selected lanthanide fission products. The authors show, however, that the product would still be weapons usable, and that it would be far less self-protecting than is the case with spent fuel.

The third article, by Scott Kemp, describes and analyzes one route for a country to obtain nuclear explosive material that has generally not received much attention. This is to produce plutonium or U-233 by use of accelerators. The possibilities of this route are such that the author concludes that accelerator technology should be considered for export-control lists, which is not now the case.

The issue concludes with an Occasional Report by David Hafemeister. It is a comment on the Presidential Report to Congress in 1993 giving a net benefit analysis of U.S./Soviet arms control. Although the international security scene has obviously been transformed since the Report, there remains a security niche

for arms control and it is important to understand as best we can the benefits and drawbacks of past arms control agreements. The author laments that the Report gave far more attention to possible violations (almost all of them small) than to acts of compliance; and overall, that it did not seriously attempt a real net assessment.