

development of doctrines and manuals, and incorporation of relevant units into the armed forces. Monitoring such activities is more likely to be the preserve of national intelligence-gathering agencies (which may also, of course, keep a watch on facilities). A chemical weapons verification agency conceivably could monitor this sort of indicator or could be restricted to production facilities. The utility of the Agency as a model for indicators beyond production facilities is, of course, much more limited.

Questions also arise concerning the IAEA's technical criteria for safeguards. The Agency is charged in INFCIRC/153 with the *timely detection* of diversion of *significant quantities* of nuclear material from peaceful nuclear activities (para. 28). These criteria vary with the character of the specific nuclear material concerned. The significant quantity criterion is roughly the amount needed, allowing for operating losses, to produce one explosive device per year. The timely detection criterion is "of the same order of magnitude" as the time needed to convert the necessary material to a form suitable for an explosive device. There is also another criterion: the system must not only give confidence that diversions will be detected, but also that unnecessary false alarms will not be given. Unfortunately, measures taken to avoid false assurances will also increase the probability of false alarms. These criteria are political as well as technical in nature: they were created through a process of negotiation and reflect estimates of acceptable performance and risk. Analogous criteria would likely be appropriate for a chemical weapons convention, with an additional criterion or set of criteria according to which potential agents or precursors would be selected to be subjected to safeguards.

The Agency cannot yet meet the detection and false alarm criteria set for it. How this weakness should be interpreted is a matter of dispute. While some think of the criteria as setting safeguards standards, Scheinman argues that their real function is to set guidelines for planning, the distribution of safeguards efforts, and safeguards research and development. They must be further operationalized before the Agency can achieve benchmarks for the measurement of its performance. The Agency's concrete "inspection goals," considered attainable with existing technical means although not necessarily with existing resources, are a different thing, he says. So, too, are "accountancy verification goals," which concern the minimum material diversions which the Agency would seek to detect, bearing in mind the desirability of avoiding false alarms. Notes Scheinman of these last: "They are the best the agency expects to do, given the type and throughput of a facility."²