Date: Tue, 17 Nov 2009 00:11:33 -0500
To: "Dr. Baruch Fischhoff - Chair, National Academy study on improving
Intelligence" <baruch@cmu.edu>
From: Lloyd Etheredge <lloyd.etheredge@policyscience.net>

Subject: **Nuclear Security: Computing N's for Black-market and Sting Operations**

Dear Dr. Fischhoff and Colleagues:

A key database/analysis challenge is to develop a system to monitor the location and security of all nuclear weapons and fissionable material in the world.<1> And, also the location and security of the knowledge and components need to produce and deliver WMDs

Recommended N's
One strategy is for the US and other intelligence services to initiate N black-market, bribery, break-in, blackmail, and sting operations each year to test each of the pathways that terrorists or others might use to acquire these weapons or capabilities.

Would your Report be willing to compute/estimate the N of such annual tests that prudence and statistical sophistication would suggest? [Part of the analysis might be straightforward to adapt from methods to estimate the safety of nuclear reactors from reliabilities of individual components and sub-systems, etc.]

I suspect that the current N of annual tests is too low.

Experimental Variants
- US and other intelligence agencies can vary the (alleged) identity and motives of the buyers, in experimental black-market and other operations - for example, an Islamic militant group, or Chechnyan separatists, etc. Also the sums being offered as bribes, etc. Such experimental variations could help to estimate vulnerabilities for a successful security breach.

+ Recommended N's for Deterrent Effects
At a certain level, the widespread knowledge that the potential bribers, black-market purchasers, etc. might be *de facto* CIA or other foreign (or

domestic) government security tests, could itself have a deterrent effect. It might be interesting to estimate how large an N (+ visible & dramatic prosecutions?) would be needed to have this effect; and how cost-effective it could be.

Lloyd Etheredge

<1> For an overview of nuclear proliferation challenges facing the intelligence community: T. Reed and D. Stillman, The Nuclear Express (2009).

Dr. Lloyd S. Etheredge - Fellow, World Academy of Art & Science
Policy Sciences Center Inc.
127 Wall St., Room 322 - Box 208215
New Haven, CT 06520-8215
URL: www.policyscience.net
301-365-5241 (v); lloyd.etheredge@policyscience.net (email)