

# THE NATIONAL ACADEMIES

*Advisers to the Nation on Science, Engineering, and Medicine*

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June 16, 2005

Secretary Carlos M. Gutierrez  
Office of the Secretary  
U.S. Department of Commerce  
Room 5516  
14th & Constitution Ave., NW  
Washington, DC 20230

Dear Secretary Gutierrez:

We appreciate this opportunity to provide comments on the advanced notice of proposed rule-making (ANPR) on "Revisions and Clarification of Deemed Export Related Regulatory Requirements." One of the key roles of the National Academies, consistent with our 1863 Congressional Charter, is to advise the nation on important issues involving science, engineering, and medicine such as this one. The members of our three honorary academies – the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine – and the scientific experts who serve on the study committees of our operating arm, the National Research Council, are working at industrial, academic, and governmental institutions that are potentially affected by the proposed regulatory changes. We provide these comments in light of our background and experience with the U.S. scientific, engineering, and medical enterprise.

Our most important observation is the following: We believe the rule-changes that are being recommended by the Inspector General and the interpretations of existing regulations that are now being widely disseminated will serve to weaken both national security and the economic competitiveness of the United States. The impact will likely be to dramatically hinder American scientific, engineering and health care research and innovation, factors that have been so vital to our quality of life.

The clearest problem now is that universities and industry are unable to specify the expected impact of attempting to comply with these rules. We believe that the Department needs to address the following issues in the existing and proposed rules before we can provide you with a categorical response and before the Department determines which interpretations and rule-changes to the Export Administration Regulations, if any, will make the nation safer.

First, the problems that these rule changes and new interpretations are attempting to address, as well as the costs and benefits of different regulatory approaches, need to be clarified. It is not simply that the affected communities will be more accepting of the need to tighten rules if they understand why (although that will help), but complex problems require focused and tailored solutions. The measures being contemplated by the department could be too broad, too narrow

or possibly irrelevant depending on whether one defines the challenge as primarily countering terrorist activities, political adversaries, or economic competitors.

Second, the new interpretations and proposed changes could eviscerate the Fundamental Research Exemption as enunciated in NSDD-189 and reconfirmed by Secretary of State Rice and former Energy Secretary Spencer Abraham in November 2001 and May 2003, respectively. We favor a crisply defined regulatory "safe harbor" for fundamental research, so that universities can have confidence that activities within the "safe harbor" are in compliance, and so that the vital importance to national security of open fundamental research is reaffirmed as a matter of national policy. The new regulatory machinery could then be focused on university activities, if any, occurring OUTSIDE the "safe harbor." Such activities might be conducted in separate facilities, or even off campus. And if the regulatory "safe harbor" is properly defined and constructed, a number of universities might not even have any such activities.

Third, it is necessary to determine whether the perceived national security benefits are worth the cost that universities and industry will incur to implement these proposed changes. While the financial costs will be a significant burden, both sectors would likely find ways to manage them over time. Of much greater concern is that these measures will pose an irretrievable cost to our nation – especially our competitiveness and national security which has relied so heavily for the last sixty years on the fruits of technology derived from basic science and bringing the "best and brightest" people from other countries to the U.S. Losing the "best and the brightest" foreign students and researchers to other countries because they feel unwelcome here will have very serious consequences for the future of America. Eleven of the last 45 winners of the Nobel Prize in science<sup>1</sup> from 1999-2004 were foreign born Americans. In the same timeframe, fifteen of the last 51 recipients of the National Medal of Science, an annual award made by the U.S. President, were also immigrants to the United States.

Fourth, it is necessary to assess whether these particular measures will *in fact* staunch the flow of scientific information to potential terrorists, adversaries and/or competitors. In a world where access to information is increasingly global, those who intend to do harm to the United States may simply go elsewhere for the scientific or technological information they seek; the U.S. is far from the only advanced, research-capable country.

These four issues are manifestations of a single principle of U.S. policy concerning classified information: "Construct high fences around narrow areas." This refers to maintaining stringent security around sharply defined and narrowly circumscribed areas of *critical* importance in order to be able to maintain simultaneously the highest levels of national security and of scientific research. This principle was originally articulated in *A Review of the Department of Energy Classification: Policy and Practice* (1995)<sup>2</sup>, and acknowledges that an attempt to protect *everything*, in fact dilutes attention, and protects *nothing*. It is our sense that the recommendations expressed by C.D. Mote, President of the University of Maryland, at the

<sup>1</sup> The areas of science reflected in the Nobel Prize include chemistry, medicine and physiology, and physics. Areas of science for which the National Medal of Science is awarded include biology, chemistry, engineering, math and physics.

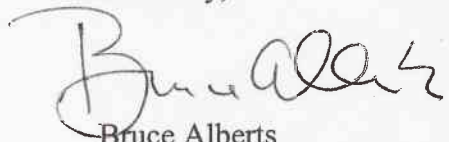
<sup>2</sup> This reference can be found on the web: <http://www.nap.edu/books/0309053382/html/89.html>.

National Academies' May 6<sup>th</sup> workshop on the Department of Commerce Inspector General's Report on deemed export policy, could help to operationalize this principle in the area of deemed exports. We urge you to give them serious consideration as a first step:

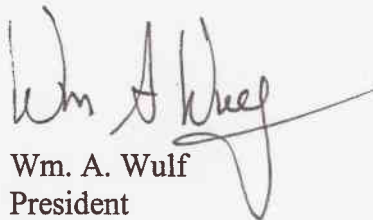
1. Greatly narrow the scope of controlled technologies requiring deemed export licenses and ensure the list remains narrow going forward.
2. Delete all controlled technology from the list whose manuals are available in the public domain, in libraries, over the internet, or from the manufacturers.
3. Delete all equipment from the list that is available for purchase on the open market overseas from foreign or U.S. companies.
4. Clear international students and postdoctoral fellows for access to controlled equipment when their visas are issued or shortly thereafter so that their admission to a university academic program is coupled with their access to use of export controlled equipment.
5. Do not change the current system of license requirements for use of export controlled equipment in university basic research until the above four recommendations have been implemented.

To date, the Commerce Department has gained substantial goodwill within the science, engineering, and medical community through its policy of openness in discussing and seeking comments on these rules. We give considerable credit to you and other responsible officials, such as Peter Lichtenbaum of the Bureau of Industry and Security, who have openly and willingly embarked on a dialogue that will ultimately make the research community more aware of how to secure our most advanced technologies from hostile entities. At the same time, we strongly recommend the Department embark on responses to the communities' concerns before implementing regulations that may chill ongoing research of critical importance to the future of the US.

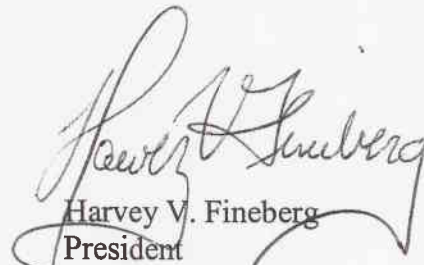
Sincerely,



Bruce Alberts  
President  
National Academy of Sciences



Wm. A. Wulf  
President  
National Academy of Engineering



Harvey V. Fineberg  
President  
Institute of Medicine

cc: Peter Lichtenbaum, Assistant Secretary of Commerce for Export Administration,  
Department of Commerce  
Bureau of Industry and Security, Regulatory Policy Division, ATTN: RIN 0694-AD29.