



January 10, 2019

Regulatory Policy Division
ATTN: Kirsten Mortimer
Bureau of Industry and Security
U.S. Department of Commerce
Room 2099B, 14th Street and Pennsylvania Avenue NW
Washington, DC 20230

Re: RIN 0694–AH61 – Review of Controls for Certain Emerging Technologies

To Whom It May Concern:

I am writing on behalf of the American Association for the Advancement of Science (AAAS), the largest multidisciplinary scientific society in the United States and the publisher of cutting-edge research through our *Science* family of journals. We welcome the opportunity to submit comments to the Department of Commerce Bureau of Industry and Security (BIS) in response to the Advance Notice of Proposed Rulemaking (*Federal Register*; 15 CFR Part 744) regarding *Review of Controls for Certain Emerging Technologies*. AAAS also appreciates the effort that BIS is taking to comply with Section 1758 of the National Defense Authorization Act for Fiscal Year 2019, in seeking public comments from all stakeholders, including academic scientists.

As one of the oldest general scientific societies in our nation, AAAS has long held the position that open communication among scientists and freedom in the conduct of science is essential to the advancement of scientific knowledge and to the application of that knowledge for the benefit of all Americans. At the same time, we recognize that there may arise inherent conflicts between national security and open scientific communications as the frontiers of science and engineering advance. AAAS believes that the interrelationship between our national security, economic prosperity and scientific collaboration must be balanced with discretion and due diligence. It is with this understanding in mind that we respectfully submit these comments.

Fundamental Research Exemption. AAAS is pleased that the BIS advance notice of proposed rulemaking includes language to exempt fundamental research as part of the proposed rule and preserves the definition of “fundamental research” as described in Section 734.8 of the Export Administration Regulations (EAR). For decades, AAAS has opposed governmental restrictions on the dissemination, exchange or availability of the results of fundamental research, and we encourage the Bureau to adhere to the principle – outlined in National Security Decision Directive 189 (NSDD 189) – that fundamental research, including basic and applied research in science and engineering, not be excessively restricted in the name of national security.

Criteria for Defining and Identifying Emerging Technologies. AAAS recognizes that situations may arise where there is uncertainty in what constitutes fundamental research and the point at which a field becomes an “emerging technology” of concern to national security. Thus, the definition and criteria for identifying an “emerging technology” becomes a critical component in this process. AAAS concurs with the suggested parameters submitted by the Council of Government Relations (COGR), the Association of University Export Control Officers (AUECO) and other commenters in their submission and as outlined below:

“Emerging technologies” are specific, non-mature (i.e., developmental) core technologies essential to the national security interests of the United States that:

- (i) are required for the development, production, use, operation, installation, maintenance, repair, overhaul, or refurbishing of specific and identifiable potential conventional weapons, intelligence collection applications, weapons of mass destruction, or terrorist applications;
- (ii) would provide the United States with a specific and identifiable qualitative military or intelligence advantage;
- (iii) are not available in or otherwise being developed in foreign countries; and
- (iv) are not within the scope of any existing multilateral controls.

Furthermore, we recommend that BIS utilize the department’s Technical Advisory Committees to assist the Bureau in identifying emerging technologies that are of national security concern. Access to scientific and technical expertise from individuals that represent public, private and academic sectors will enhance the ability of BIS to identify emerging technologies with an eye toward balancing national security interests without impeding the advancement of fundamental research.

Finally, it is essential that export controls not be applied to a science and technology field too early in the process of research advancement and development or be applied too broadly to a field. AAAS appreciates that BIS recognizes there are differences between what may be an “emerging technology” and what constitutes a “foundational technology,” and that BIS intends to treat “foundational technology” in a separate rulemaking. However, the process of scientific research and discovery is no longer a linear process with discrete phases that can easily be captured and controlled. Research involves a convergence of scientific and engineering fields that may emerge over years to fully develop its foundational components, and, at the same time, create new frontiers for fundamental research discoveries.

AAAS urges discretion and due diligence as BIS further develops proposed rules for emerging technologies and stands ready to assist the Bureau in its important work.

Sincerely,



Rush D. Holt