POSITION STATEMENT

Reforming Technology Export Controls and Deemed Export Policy

(Approved by the IEEE-USA Board of Directors, 19 Sept. 2012)

The U.S. government has endeavored to reform and simplify the export control system by re-categorizing regulated technologies into three tiers--harmonizing the regulatory language between multiple export control regimes; merging the licensing process to be officiated by a single licensing entity; and institutionalizing certain export license exemptions (e.g., the Strategic Trade Authorization License Exemption). These changes, which are still under development, will address a number of concerns that have been voiced by industry and academic groups.

IEEE-USA endorses the following recommendations in the areas of reforming the export control process and ensuring scientific and technological competitiveness:

- Congress should consider a single Export Control Administration Act that includes the current Arms Export Control Act, to oversee all dual-use technology exports tied to multilateral regimes, and to eliminate the majority of unilateral controls.
- In the context of deemed exports, the United States should restrict the listing of dual-use technologies more tightly, to a subset of the broader export control lists, so that it is in parity with competing countries.
- The jurisdiction determination process should be completed within 30 days.
- License reviews should be completed within 7-14 days, instead of 60.
- The licensing process should be simplified to minimize financial and administrative impact upon non-government organizations that are seeking licenses.
- Export licensing agencies should implement processes and allocate sufficient resources to foster continued technical development of their licensing officials.
- Subject matter expertise and other processes should be integrated into the licensing agencies to provide emerging technologies analysis.
As currently structured, the U.S. government has more than one dozen export control regimes that are independently managed by almost an equal number of departments and agencies. In addition, a number of these regimes are tied to international multilateral arms control agreements, such as Wassenaar, Nuclear Suppliers Group, Missile Technologies Control Regime, and the Australia Group. Within the United States, the two primary regimes that impact research and development of technologies are the Export Administration Regulations (EAR), and the International Trafficking in Arms Regulations (ITAR), currently administered by the Department of Commerce and State, respectively.

Export controls regulations and the associated lists of regulated commodities must be frequently updated to avoid producing more harm than benefit. Over the past two decades, since the end of the Cold War, we have observed distinct examples of the negative effects of export controls. Not only does the current export control policy slow international interactions among science and engineering and hamper the productivity of U.S.-owned multinational corporations, it also stimulates foreign indigenous development. For example, Thales is now marketing ITAR free satellites. Furthermore, companies in Russia (e.g., T-Platforms) and China are vocally advertising their development of indigenously manufactured high-performance computers. Additionally, despite recent positive changes, much work remains to ensure U.S. competitiveness in innovation and technologies.

The regulatory agencies that review the export control classification lists currently have insufficient resources to maintain currency with the globalization of technology markets. The Jurisdiction Determination process can often take more than a year to evaluate. The regulatory agencies have insufficient resources with which to assess emerging technologies for potential dual-use implications. The licensing process for exports is still too slow to maintain U.S. competitiveness. The United States still unilaterally regulates a number of foreign available technologies, due to its slow process for removing technologies from its lists. And finally, the United States remains as only one of a few countries (e.g., India) and the only within the Wassenaar Arrangement that have instituted a deemed export policy, which negatively impacts its ability to recruit top talent.

This statement was developed by the IEEE-USA Research and Development Policy Committee and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good and promotes the careers and public policy interests of more than 200,000 engineers, scientists, and allied professionals who are U.S. members of IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of IEEE or its other organizational units.
BACKGROUND

Central to the need for modernization of the export control system is the recognition that the U.S. is no longer the single pre-eminent leader in several key technical fields. Numerous publicly-available reports uphold this conclusion including *Rising Above the Gathering Storm*,\(^1\) *Beyond Fortress America*,\(^3\) *Science and Security in a Post 9/11 World*,\(^2\) *Avoiding Surprise in an Era of Global Technology Advances*,\(^3\) and the recently released *Science and Engineering Indicators-2010*.\(^4\)

These reports outline a more challenging R&D landscape within the United States including: (1) technology corporations are becoming more multinational in response to the competitive marketplace; (2) research and technology development are increasingly global with an increasing number of ground-breaking scientific discoveries being made by foreign researchers; and (3) foreign students and labor are highly desired worldwide to continue growth in the technology sector, and to remain competitive in an age of rapid innovation and development. All of these factors brush up against the restrictions imposed by export controls.

The battle between the need to restrict access to technical information for national security purposes and the requirement of academic freedom to stimulate productive scientific and engineering developments has been on-going since before the start of the Cold War. President Harry S. Truman’s Scientific Research Board produced a 1947 report on Science and Public Policy that states: “Strict military security in the narrow sense is not entirely consistent with the broader requirements of national security. To be secure as a Nation we must maintain a climate conducive to the full flowering of free inquiry. However important secrecy about military weapons may be, the fundamental discoveries of researchers must circulate freely to have full beneficial effect. Security regulations, therefore should be applied only when strictly necessary and then limited to specific instruments, machines or processes. They should not attempt to cover basic principles of fundamental knowledge.”\(^5\)

In 1982, the National Academies found that there was no definitive evidence that indicated the free exchange of basic and low-level applied research advanced the economic or military capabilities of an adversary.\(^6\) This study motivated the development of 1988 National Security Decision Directive 189 (NSDD 189) by the Reagan Administration, see appendix VI.

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\(^4\) National Science Foundation, *Science and Engineering Indicators 2010*.
\(^5\) Records of the President’s Scientific Research Board, available from the Harry S. Truman Library.
Unfortunately, the events of 11 September 2001 severely affected US domestic export control policies. On 29 October 2001, Homeland Security Presidential Directive 2 described a program to review fundamental research and academic programs to “… identify sensitive courses of study…” that may contribute to terrorist and proliferators capabilities. To counter the potential negative impact of this Presidential Directive, National Security Advisor Condoleeza Rice and the Science and Technology Policy Advisor John Marburger released statements on 1 November 2001 supporting the fundamental research exclusion as defined by the NSDD 189. Nevertheless, subsequent acts and public laws increased the regulatory pressure being applied to the fundamental research community.7

So what does this all mean? Academic and fundamental research environments are more concerned now, than ever before, about whether they are fully in compliance with the export control regulations. Since 2001, the Department of Commerce and Department of State have hosted over 100 export control training events every year to universities, small businesses, and large industrial firms. Part of the challenge is the complex intersection of slowly developing legal language and the rapidly advancing technology landscape. Here’s a brief overview of the export control regulations:

Technology and technology commodities that have both commercial and military applications, otherwise known as dual-use, are primarily regulated under the Export Administration Regulation (EAR) which is administered by Department of Commerce’s Bureau of Industry and Security (BIS).8 Whereas, commodities specifically designed to meet military requirements or for military purposes are usually regulated under the International Traffic in Arms Regulations (ITAR) through the Arms Export Control Act (AECA), which is administered by the State Department’s Directorate of Defense Trade Controls (DDTC).9

In general, only defense articles that do not have “predominant civil applications,” or a performance-equivalent to civilian commodities are intended to be protected under ITAR; however, there are several exceptions required by Congress due to the potential military or political sensitivities as well as legal interpretations of the ITAR itself. Today, commercial products that were also developed for military applications such as space instrumentation and components, spacecraft antennas and specialized GPS receivers, radiation-hardened electronics, communications equipment, computer equipment and software, and encryption technology as well as common commodities such as springs,

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8 Export Administration Regulation, 15 Code of Federal Regulation Part 730. The 1979 Export Administration Act lapsed on 20 August 2001 and has not yet been re-authorized by Congress. The President has used the International Economic Emergency Powers Act (Executive Order 12924) to issue Executive Order 13222 on 17 August 2001 to continued the Regulations (66 Fed. Reg. 44025 published on 22 August 2001),
bolts, and even electrical lug connectors are included among the U.S. Munitions List (USML) and therefore regulated under ITAR.\(^{10}\)

The exporter has the responsibility for identifying the technology’s category and regulatory jurisdiction. In cases where jurisdiction isn’t immediately clear, the exporter may request the US Government to perform a Commodity Jurisdiction determination, wherein the Department of Commerce works with other US Government agencies and technical experts to determine if and then by whom a commodity is regulated.

One aspect of export control, which is not entirely unique to the U.S.,\(^{11}\) is the Deemed Export rule. A “Deemed Export” is defined as the release of technology or source code having both military and civilian applications to a foreign national within the United States.” \(^{12}\) By technology, the law means specific information “required” for the “development,” “production,” or “use” of a product. “Technology” includes “technical data” and “technical assistance.” \(^{13}\) Thus, exchanging information on the production, development, or use of a technology to a foreign person on U.S. soil – even at conferences or in academic environments – may constitute an export.

The Deemed Export rule is one of many regulations that must adapt with the technology environment. While not required under the multilateral export control regimes, the US instituted the deemed export rule in 1994 by amending the definition for the term “export of technical data” in the EAR and likewise for the ITAR.\(^{14,15}\) Considering the modern R&D environment, these policies restrict academic freedom and thus often slow progress in US fundamental research.

\(^{10}\) U.S. Munition List is covered under section 38 of the Arms Export Control Act (22 U.S.C. 2778).

\(^{11}\) India is the only country in the world that has adopted a deemed export policy identical to the United States (to the extent that they used the US legal language). The United Kingdom instituted controls on transfer within the confines of the U.K of technologies related to end-uses involving Weapons of Mass Destruction, but is not permitted to extend this restriction to non-UK visitors who are citizens of the European Community. The Russian Federation states it has a deemed export policy; however, no formal laws appear to be available to the public.


\(^{13}\) 15 Code of Federal Regulation Supplement No. 1 to part 774 of the Export Administration Regulation.

\(^{14}\) There are currently four principal export control regimes that the U.S. is party to: Wassenaar Arrangement, Nuclear Suppliers Group, Australia Group, or Missile Technology Control Regime.

\(^{15}\) 15 C.F.R. Part 734.2, Export Administration Regulation. The definition of “export of technical data” prior to 1994 included “any release of technical data in the U.S. with the knowledge or intent that the data will be shipped or transported from the U.S. to a foreign country” but was amended in 1994 to include any such release to a foreign national. This definition was published as a final regulatory action exempt from public notice and comment due to national security concerns.