August 3, 2015

Ms. Hillary Hess
Regulatory Policy Division
Bureau of Industry and Security
U.S. Department of Commerce
Room 2099B
14th Street and Pennsylvania Ave. NW.
Washington, DC 20230

RE: RIN 0694-AG32

Dear Ms. Hess,

I am writing on behalf of the Association of University Export Control Officers (AUECO), a group of 129 senior export practitioners from 100 accredited institutions of higher learning in the United States (U.S.). AUECO members monitor proposed changes in export control laws and regulations affecting academic activities and advocate for policies, procedures, and award terms and conditions that advance effective university compliance with applicable U.S. export controls and trade sanction regulations.

The proposed Revisions to Definitions in the Export Administration Regulations (EAR) and corresponding changes to the International Traffic in Arms Regulations (ITAR) will, if adopted as proposed, have significant impact on academic institutions in the U.S. We appreciate the opportunity to comment on these revised definitions.

Changes to Educational Information

The current §734.9 defines "educational information" as information released by instruction in catalog courses and associated teaching laboratories of academic institutions, and §734.3(b)(3)(iii) excludes such information from the scope of the EAR. In the proposed rule, the definition of "educational information" is removed, and §734.3(b)(3)(iii) excludes information and "software" that concern general scientific, mathematical, or engineering principles commonly taught in schools and released by instruction in a catalog course or associated teaching laboratory of an academic institution. We believe that the proposed change adds uncertainty and potentially narrows the scope of applicability of the exclusion. Will academic institutions contemplating new curricular additions need to concern themselves that the course may not be commonly taught at other universities? Many catalog courses include hands on design laboratories, particularly as capstone experiences. Does the content of these courses,

which would have previously been treated as "educational information" become subject to the EAR by virtue of including more than general principles?

Universities do not discriminate on the basis of citizenship or national origin in academic programs. Education at universities is by nature open, with the opportunity to participate limited only by required prerequisites. A narrow interpretation of the revised §734.3(b)(3)(iii) would inhibit the ability of U.S. universities to develop new courses in emerging areas of science and engineering critical to employability of their graduates and the future competitiveness of the industrial sector. AUECO recommends that the qualifier "concern general scientific, mathematical, or engineering principles commonly taught in schools" be removed and that the simpler "is released by instruction in catalog courses and associated teaching laboratories of academic institutions " be retained for §734.3(b)(3)(iii). As an alternative, we believe changing the proposed description to "information and "software" that concern general scientific, mathematical, or engineering principles commonly taught in schools and **/or** released by instruction in a catalog course or associated teaching laboratory of an academic institution" would describe educational information more fully without narrowing the scope of the exclusion.

Definition of "Fundamental Research"

The proposed definition of "fundamental research" using the language of NSDD-189 in the EAR and the ITAR is consistent with U.S. academic institutions' understanding of the concept. The proposed rule adopts a definition of "applied research" taken from the DFARS (48 CFR part 31.205-18) with an alternate definition adopting OMB Circular A-11 language.

The OMB Circular A-11 language reads: "applied research is defined as systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met". This language is well understood by universities in the context of reporting on federal expenditures to NSF, and AUECO favors the adoption of this commonly used definition.

We suggest that if the DFARS definition is adopted, the definition of "applied research" would be further clarified by including the rest of 48 CFR part 31.205-18 — "Applied research does not include efforts whose principal aim is design, development, or test of specific items or services to be considered for sale; these efforts are within the definition of the term development, defined in this subsection." — the "for sale" criterion will help to clearly distinguish between "applied research" and "development" activities.

BIS has also proposed an alternate definition: "fundamental research" means non-proprietary research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community. We assume that this simpler definition would not alter other wording in the proposed rule permitting prepublication review under specific circumstances within the fundamental research domain. While we generally favor the simplified definition, it would be helpful if a note were added to illustrate what is and is not non-proprietary, or alternately for the term to be defined. Alternately, AUECO believes that the

ambiguity around the use of the term non-proprietary would be eliminated with another alternate definition.

AUECO suggests using a definition that reads: ""fundamental research" means research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, and for which the researchers have not accepted restrictions for proprietary or national security reasons". This definition captures the intent of BIS in clear unambiguous language.

AUECO appreciates that the proposed definition of "fundamental research" clarifies the broad applicability of the concept regardless of organization type or location. However, the removal of the specific criteria for university based research currently found in §734.8(b) creates interpretive uncertainty. U.S. universities use §734.8(b) to make determinations as to the applicability of fundamental research by evaluating proposed research activities using paragraphs 2 -6, and assuming that the research qualifies as "fundamental research" if all conditions are met. AUECO recommends that the specific language of §734.8(b) be retained in the EAR. If this is not possible, we suggest that BIS develop a decision tree tool for the determination of fundamental research for universities that incorporates the current criteria for university based fundamental research.

"Fundamental research", "technology", and "software" Under the proposed §734.8(a), "'technology'" that arises during, or results from, fundamental research and is 'intended to be published'" would not be subject to the EAR. This is a change from the current §734.3(b)(3), under which "publicly available technology and software…[that] arise during, or result from, fundamental research" are not subject to the EAR.
The proposed rule refers to a proposed note "to clarify that software and commodities are not 'technology resulting from fundamental research'" (although we were unable to locate the note). This change would significantly complicate and restrict university research; while natural-language documents written by a researcher would be "technology" that could be freely shared as arising during fundamental research, a computer-language document (a program in source code) written by the same researcher would be subject to deemed export restrictions. "Software" resulting from university research is "published" as well as "technology", as recognized in the current §734.7(b). The export definitions in §734.2(b) recognize the similarities between software and technology. AUECO strongly recommends that the proposed §734.8(a) be revised as follows:

> § 734.8 ''Technology'' and "software" that arises during, or results from, fundamental research.
> (a) ''Technology'' or "software" that arises during, or results from, fundamental research and is 'intended to be published' is not ''subject to the EAR.''
> (b) Prepublication review. ''Technology'' or "software" that arises during, or results, from fundamental research is ''intended to be published'' to the extent that the researchers are free to publish the technology and software source code without

restriction or delay. ''Technology'' that arises during or results from fundamental research subject to prepublication review is still ''intended to be published'' when:

Questions and Answers- Technology and Software Subject to the EAR

AUECO urges BIS to retain the questions and answers found in Supplement No. 1 to part 734 in the regulations. While we agree that the questions and answers are illustrative, inclusion of them in the EAR removes the uncertainty created by changes due to interpretive differences without benefit of the rulemaking process. We are concerned that removal of the questions and answers, which we use to guide export control decisions at universities, would create increased uncertainty in our application of key concepts including fundamental research, publication, and educational instruction.

End to End Encryption Standard

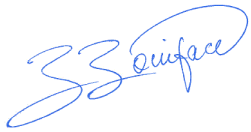
The addition of §734.18 listing activities that are not exports, reexports or transfers is a useful addition to the EAR. In particular, the exclusion of sending, taking or storing software that is secured using end to end encryption from export activities is welcome to the academic research community as it will reduce the faculty burden associated with international travel and the need to monitor and conduct research using main campus resources while abroad. AUECO favors the proposed EAR illustrative standard of FIPS 140-2 supplemented in accordance with NIST guidance or other similarly effective means.

Effective Date of the Final Rule

While the revised definitions do not make changes to the USML or the CCL, as written they have a significant impact on regulatory burden for U.S. universities. Importantly, such review would be required retrospectively for current projects. These procedures will also require additional staffing for export compliance. Universities will not be able to meet the compliance obligations imposed by the proposed changes within 30 days of the publication date. AUECO suggests at minimum a 6 month delay in effective date, and further that the revised regulations be applicable only to new efforts begun after the effective date of the Final Rule.

AUECO appreciates the opportunity to provide comments on these proposed changes.

Sincerely,



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