



October 30, 2018

Technical Advisory Committee
Bureau of Industry and Security
U.S. Department of Commerce

Re: Commerce Control List Proposal

To Whom It May Concern:

The Association of University Export Control Officers (AUECO) respectfully submits this letter in response to the U.S. Department of Commerce's Request for Proposals Notice issued July 2018. AUECO members use the Commerce Control List (CCL) frequently in efforts to assist their universities with classifications and license applications for both existing and developing technology. Rather than specialize in one technical area, AUECO member organizations conduct research in a broad variety of areas in an effort to further U.S. derived technology.

AUECO is an association of over 250 senior export control professionals with compliance responsibility at over 160 institutions of higher education within the United States. AUECO is committed to monitoring changes in the administration of export and sanctions laws and regulations that may impact the unique nature of higher education, including academic and research collaborations.

Recommendation

AUECO is encouraged with the U.S. Department of Commerce's stated desire to update and modernize portions of the CCL. In an ever changing and increasingly complex technology dependent world, having up-to-date, concise, and easily understandable regulatory guidance on the scope and extent of export control coverage of modern and advancing technologies will help support both national security and scientific advancement interests of the United States and U.S. academic institutions. While not an exhaustive listing, AUECO proposes the following recommendations for updates or modernization to categories within the CCL where terminology requires further clarification or is outdated. The following recommendations would assist users in navigating the CCL in an effective manner, thus reducing errors in self-classification determinations. The recommendations would benefit the Department of Commerce by reducing requests for commodity classifications and unnecessary or inaccurate license applications.

Two of the challenges are the wide variety of specifications used, many of which are outdated and/or not in common use by manufacturers, and the inconsistent use of undefined terms. We wish to draw particular attention to the challenges facing university researchers and export compliance staff in

determining license requirements when designing and building scientific research instruments, often as part of international collaborations for ground-, atmosphere-, and space-based research.

Clarification Requests

- *Sensors (6Axx2)* – It is requested that 6A002 and other sensor-related export control classification numbers (ECCNs) be modified and definitions added to facilitate classification and license determination. Definitions are requested for “*sensor*” and “*detector*” which along with “*focal plane array*” are all used to describe a monolithic sensor with or without readout and signal processing electronics. A definition of “*pixel*” (separate from “*active pixel*”) would also be helpful. We understand that the criteria for Category 6 are largely set by the Wassenaar Arrangement, and therefore our suggestions include adjustments in the reasons for control as well as changes in the criteria.

(a) Simplify 6A002 by merging and/or reorganizing 6A002.a (*optical detectors*) and 6A002.b (*imaging sensors*) to use the same terminology and a smaller, critical subset of criteria such as spectral sensitivity, space qualification, and amplification methods. As currently written, it is challenging for even a technical specialist to parse these subparagraphs to determine which controls a particular commodity;

(b) In 6A002, with a corresponding change in 6E001, add an RS-2 *reason for control* and set criteria for sensors and detectors (including focal plane arrays) to lessen the licensing burden for international collaborations;

(c) Modernize the array size criterion (for example, a “2048 element” charge-coupled device (CCD) would be less than 50 pixels x 50 pixels, which is much smaller than what is currently used in inexpensive cell phones, much less in scientific instruments);

(d) Clarify the applicability of Category 6 to new sensor technologies such as depleted field effect transistors (DEPFETs), such as by adding entries for the Note to 6A002.b.2;

(e) Expand the applicability of license exception 15 CFR 740.15(f), titled “Spacecraft for launch,” to ground-based fundamental research instruments, in particular by expanding Part (3) to apply to permanent exports of ground-based instruments; and

(f) Add references to 6A990 under Related Controls to CCL and the U.S. Munitions List (USML) categories controlling space-qualified read-out integrated circuits (ROICs). For example, Category 3A ECCNs for integrated circuits and USML Category XV(e)(3) for ROICs specially designed for certain focal plane arrays.

- *Cameras (6Axx3)* - It is requested that ECCNs within Category 6 product group A for cameras (6A003, 6A203, and 6A993) be updated to clarify camera description terminology to assist exporters in determining the proper ECCN of cameras, their plug-ins, and components.

Consider providing definitions or descriptions for “streak camera”, “framing camera”, “instrumentation camera”, and “scanning camera” as used in ECCNs 6A003 and 6A203. A firm definition of what constitutes each can ease confusion regarding proper classification of end item or components. These terms are not consistently used among manufacturers and developers and lead to confusion regarding proper ECCN classification.

Cameras may incorporate multiple functions, for example imaging and framing capabilities. In these instances, it is not clear how to determine the essential character of the system to identify the proper ECCN. Additionally, 6A003.a.6 and 6A203 include “specially designed” plug-ins and components respectively for streak cameras and framing cameras. Without a firm definition of these systems, the “specially designed” review for plug-ins and components may be incorrectly applied.

By contrast, ECCNs 6A003.a.1 and 6A003.a.2 give useful descriptions of the high-speed cameras captured in these ECCNs, allowing an exporter to accurately assess the control parameters for their system or any “specially designed” plug-ins under 6A003.a.6. Consider having similar descriptions for other camera types. The technical note in 6A203.c offers a description of high-speed single frame cameras; however, this note could be expanded to better capture the streak and framing systems listed in 6A203.

- *Mirrors (Optical Components, 6A004)* – It is requested that the CCL and USML controls on mirrors be reconciled to clarify if and when grazing incidence mirrors (“tube-type” in 6A004), commonly used for space-based X-ray instruments, are controlled under the USML. Such mirrors are excluded from 6A004 per the Note to 6A004.e. For the time being, we suggest that 6A004 “Related Controls” include a reference to USML Category XV.
- *Radars (6Axx8)* – It is requested that 6A008 within Category 6 Product Group A be updated to include a definition or clarification regarding what constitutes “Meteorological (weather) radar” which is excluded by the note at the beginning of the ECCN. Additionally, ECCN 6A108 excludes, in “Related Controls,” airborne civil weather radar conforming to international standards provided that they do not incorporate specified elements. Clarification would be helpful in situations where a radar system may be enumerated in this ECCN but confusion existed regarding whether or not it was excluded as a weather radar. Expanding this clarification as appropriate to include all civil weather radar would be a consistent method for updating 6A008. It would also be helpful to have a definition or clarification regarding what constitutes a “non-cooperative” target referenced in 6A008.f. Questions have arisen regarding whether this term is limited to aircraft actively attempting to remain unseen, or whether it includes potential targets such as storm debris, birds, raindrops, etc. The “Technical Notes” section at the end of the ECCN already includes definitions of terms used in this ECCN. Including definitions of the terms mentioned above would be helpful.

- *Computers (4A)* – It is requested that ECCNs 4A003 and 4A994 be updated to more accurately conform to reference standards used in and the capabilities of the current state of the technology. In particular, 4A003.g includes the criteria of communications at unidirectional data rates exceeding 2.0 Gbyte/s per link and 4A994.j includes the criteria of communications at data rates exceeding 80 Mbyte/s. Current common and inexpensive desktops have Wi-Fi cards capable of 433 Mb/s (or 54 Mbyte/s) and physical Ethernet ports capable of 1 Gb/s (or .125 Gbyte/s). While neither currently reaches the thresholds specified, given the increasing rapidity of advances in data transfer speeds, it is not unreasonable to anticipate that such entry level hardware will soon reach and exceed the threshold measurements outlined. Moreover, the continued reliance on using differing data transfer rate speeds which are not regularly used in the descriptive literature (i.e., Mbytes/s – Gbyte/s vs. the more standard Mb/s – Gb/s) creates complexity in application to existing commercial technology and systems. AUECO recommends updating ECCNs such as those referenced to standardize on more commonly used data transfer speed descriptors while simultaneously reconsidering the entry thresholds for transfer speeds requiring control under such ECCNs. In addition to the Technical Note to Category 4, there is a practitioner’s guide to determining APP that is available online at <https://www.bis.doc.gov/index.php/documents/product-guidance/865-practioner-s-guide-to-adjusted-peak-performance/file>. This guide contains helpful explanations and Questions and Answers. However, it was published in 2006 and updates would be helpful. In particular, an updated definition of “vector processor” and additional information regarding GPUs would be especially welcomed.

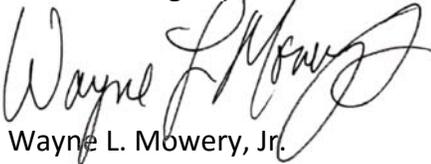
Conclusion

AUECO appreciates the opportunity to submit this comment letter and to participate in an ongoing process to modernize and update the CCL and the regulatory language of the Export Administration Regulations.

Please don’t hesitate to email us at contact@aeuco.org with any questions about this submission.

Thank you.

With best regards,



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