



Export Control Compliance Manual

Table of Contents

Overview of Export Control Regulations.....	4
Introduction	4
Export Control Laws at Penn.....	4
Department of State Regulations (ITAR).....	6
<i>Regulatory Authority and Scope</i>	6
<i>Important ITAR Definitions</i>	6
<i>The USML Categories</i>	8
<i>Exporting under the ITAR</i>	8
<i>Commodity Jurisdiction</i>	9
Department of Commerce Regulations (EAR)	9
<i>Regulatory Authority and Scope</i>	9
<i>Important EAR Definitions and Concepts</i>	10
<i>The Commerce Control List</i>	11
<i>License Exceptions</i>	12
<i>Commodity Classification</i>	13
<i>Anti-Boycott Restrictions</i>	13
Department of Treasury Regulations (OFAC)	14
<i>Regulatory Authority and Scope</i>	14
<i>OFAC Licensing for Country Based Programs</i>	15
Additional Considerations.....	15
<i>Records/ Record Retention</i>	15
<i>Penalties for Export Violations</i>	16
University of Pennsylvania Export Control Procedures	17
Commitment to Export Control Compliance	17
Roles and Responsibilities for Export Controls at Penn.....	18
<i>Empowered Officials</i>	18
<i>Director of Export Compliance</i>	18
<i>Export Liaisons</i>	19
<i>Office of Research Services, Penn Center for Innovation, and the Office of Clinical Research</i>	19
<i>Research Administrators</i>	20
<i>Business Administrators</i>	20

<i>Principal Investigators</i>	20
Export Control Analysis	21
Technology Control Plans (TCP)	21
Licensing.....	22
Training	22
Recordkeeping	23
Monitoring and Auditing.....	24
Detecting and Reporting Violations	24
Glossary of abbreviations	25
Appendix 1: Roles and Responsibilities Matrix	26
Appendix 2: Export Control Agreement Review Form.....	27
Appendix 3: Technology Control Plan Template.....	28

Overview of Export Control Regulations

Introduction

Export control laws are a complex set of federal regulations designed to protect United States (U.S.) national security; prevent the proliferation of weapons of mass destruction; further U.S. foreign policy, including the support of international agreements, human rights, and regional stability; and maintain U.S. economic competitiveness. The export control regulations govern how information, technologies, and commodities can be transmitted overseas to anyone, including U.S. citizens, or to foreign nationals in the United States. In addition to controlling exports to countries or individuals who are citizens of or located in those countries, the export control regulations ban exports to individuals and companies that have been involved in terrorist or drug trafficking activities as well as those who are barred from conducting exports because of previous violations of the export control laws.

Several federal agencies have jurisdiction over the control of exports, including the Department of Commerce, the Department of Energy, the Department of State, the Department of Treasury, the Nuclear Regulatory Commission, and the U.S. Department of Agriculture. The three principal agencies among these are the Department of State, which administers controls of defense exports through its Directorate of Defense Trade Controls (DDTC), the Department of Commerce, which administers export of commercial, “dual-use,” and less sensitive defense items and technologies through the Bureau of Industry and Security (BIS), and the Department of Treasury, which administers exports to embargoed countries and specially designated nationals through its Office of Foreign Assets Control (OFAC). While the discussion below focuses on these three agencies, it is important to remember that meeting the export requirements of one of these agencies alone is not sufficient, and the applicability of all of these regulations to a specific activity should be evaluated in order to ensure full compliance with the U.S. export control regulations.

The regulatory environment for export controls in the United States is complex and changing; thus, it is important to check the current regulations before engaging in any export-controlled activities.

Export Control Laws at Penn

The export control laws apply to many activities at Penn that do not involve research, and to which you might not expect these laws to apply. For example, just entering into a contract with certain people listed on certain government lists, or sending money to certain countries, may require a license from the U.S. government. As another example, shipping

certain items, such as ancient artifacts from the Penn Museum to certain foreign destinations, robots for a competition outside the United States, or inert plasmids to a PhD student writing her dissertation at a foreign university, might involve complying with the export control laws (These are all real examples from Penn.) However, research activities both at Penn and abroad do present the majority of the compliance challenges for Penn.

Universities in the United States, including Penn, have a long tradition of inventing and developing leading edge technologies that are important for national security and economic competitiveness as well as for educating and training scholars from around the world. In recognition of this role, export control laws of both the Department of State and Department of Commerce carve out special provisions whereby unrestricted research and classroom teaching activities at universities in the United States are excluded from the regulations. The *University of Pennsylvania Handbook for Faculty and Academic Administrators, Guidelines for the Conduct of Sponsored Research*, precludes the acceptance of restrictions on publication of research results or of sponsorship that would compromise the university policy on non-discrimination.¹ As a result, most research activities at Penn will be “fundamental research,” as defined in the export control laws, and be exempt from the laws in most cases. They will, therefore, not require a “license” or permission from the government. Nonetheless, it is important to understand the limits on fundamental research in the context of the applicable export control regulations.

The U.S. export control agencies place the burden of understanding and complying with the regulations on the University.² Even though most research conducted on campus will not be subject to export control restrictions, it is important for the university community to be aware of when activities potentially become controlled. Many universities accept restrictions on publication and participation in sponsored research, so it is incumbent upon Penn researchers to verify what, if any, information is export controlled in the conduct of collaborative research with other institutions and to prevent the dissemination of such information at Penn. The export control laws may apply to research activities on campus if controlled equipment, data, or information is used in the conduct of that research. The export control regulations apply to the export (even temporary) of controlled, university-owned equipment for field research and to the shipment of research materials or equipment to locations outside of the United States.

¹ University of Pennsylvania Handbook for Faculty and Academic Administrators Version 2011, III.A., Available at: <https://catalog.upenn.edu/faculty-handbook/iii/iii-a/>.

² See GAO Report “Export Controls: Agencies Should Assess Vulnerabilities and Improve Guidance for Protecting Export-Controlled Information at Universities,” December 2006, available at: <https://www.gao.gov/products/gao-07-69>

The following brief descriptions of the export control laws are meant to be only an overview of the regulations as they impact activities at Penn. The information should be used with caution, and the Penn community is encouraged to consult with the Export Control Office in the Office of Research Services when contemplating new export activities.

Department of State Regulations (ITAR)

Regulatory Authority and Scope

The Arms Export Control Act (AECA), 22 U.S.C. § 2778 grants authority to the President of the United States to designate and control the export and import of defense articles and services. Presidential executive order 11958 delegates this responsibility to the Secretary of State. The Department of State Directorate of Defense Trade Controls (DDTC) administers this authority through implementation of the International Traffic in Arms Regulations (ITAR), 22 C.F.R. §§ 120-130.

The ITAR contains the United State Munitions List (USML), which includes defense articles and related technical data that are controlled for export purposes. In addition to the defense article or related technical data, constituent parts and components of the defense article are controlled under the ITAR. For example, military aircraft are on the USML, as are their engines, electronic controls, and inertial navigation systems, even though such components may have other applications. If a commodity contains a part or component that is controlled under the ITAR, such as a controlled inertial navigation system, then that commodity is also controlled under the ITAR, regardless of whether or not that commodity has an inherently military purpose. Thus, an autopilot system used in basic robotics research at Penn may be controlled under the ITAR.

Many items designed for military use are also used for research completely unrelated to that military use. One example at Penn is night vision goggles, which are used in the Vet school to study night blindness in dogs. The goggles allow the researchers to observe the dogs in low light conditions. The goggles are controlled under the ITAR even though they are not being used in a military activity. It is important to understand that the ITAR designation is unrelated to Penn's use of a controlled item.

Important ITAR Definitions

To understand the requirements of the ITAR, it is important to understand terminology specific to the regulation such as “defense article,” “technical data,” and “defense service.” Additionally, it is important to understand how the ITAR defines “fundamental research” and “public domain” information.

Defense article is defined in 22 C.F.R. § 120.31. It means any item or technical data that is specifically designed, developed, configured, adapted, or modified for a controlled use listed

on the USML. In addition to the items on the USML, models or other items that reveal technical data related to USML items are also considered to be defense articles. Defense articles do not include basic marketing information on function or purpose or general system descriptions.

Technical data is defined in 22 C.F.R. § 120.33. Technical data includes information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles. This information includes blueprints, drawings, photographs, plans, instructions, and documentation. ITAR technical data also includes classified information relating to defense articles and defense services on the USML and 600-series items controlled by the Commerce Control List (discusses later in this manual), information covered by an invention secrecy order, and software directly related to defense articles.

Defense Service is defined in 22 C.F.R. § 120.32. The definition includes furnishing of assistance, including training, to a foreign person, whether in the United States or abroad, in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing, or use of defense articles. It also includes providing any foreign person any technical data as defined above.

While not common for most university-related instruction, it is important to note that defense service also means military training of foreign units and forces, including formal or information instruction of foreign persons in the United States or abroad or by correspondence courses, technical, education, or information publications and media of all kinds, training aid, orientation, training exercise, and military advice.

The ITAR considers fundamental research in science and engineering at accredited institutions of higher learning in the United States to be in the public domain, and therefore, no export license would be needed to export the resulting information abroad or share it with foreign nationals in the United States.

Fundamental Research is defined to mean basic and applied research in science and engineering where the resulting information is ordinarily published and shared broadly within the scientific community, as distinguished from research the results of which are restricted for proprietary reasons or specific U.S. Government access and dissemination controls. University research will not be considered fundamental research if: (i) The University or its researchers accept other restrictions on publication of scientific and technical information resulting from the project activity, or (ii) the research is funded by the U.S. Government and specific access and dissemination controls protecting information resulting from the research are applicable. (22 C.F.R. § 120.34(a)(8).)

Public Domain is defined in 22 C.F.R. § 120.34. Public domain information is information which is published and which is generally accessible or available to the public. The ITAR describes means by which public domain information might be available, which in addition to libraries, subscriptions, newsstands, and bookstores, include published patents and public release at conferences, meetings, and trade shows *in* the United States where those venues are generally accessible to the public.

The USML Categories

The USML defines 21 classes of defense articles. The USML is found at 22 C.F.R. § 121. In the interest of brevity, only the main headings of the USML categories are listed here. For detailed descriptions of what is included in each category, the ITAR may be accessed online at https://www.pmddtc.state.gov/ddtc_public?id=ddtc_public_portal_itar_landing. Note that category XXI is reserved for use by DDTC for controlling new technologies under the ITAR.

- I Firearms and Related Articles
- II Guns and Armament
- III Ammunition and Ordnance
- IV Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines
- V Explosives and Energetic Materials, Propellants, Incendiary Agents, and Their Constituents
- VI Surface Vessels of War and Special Naval Equipment
- VII Ground Vehicles
- VIII Aircraft and Related Articles
- IX Military Training Equipment and Training
- X Personal Protective Equipment
- XI Military Electronics
- XII Fire Control, Laser, Imaging, and Guidance Equipment
- XIII Materials and Miscellaneous Articles
- XIV Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment
- XV Spacecraft and Related Articles
- XVI Nuclear Weapons Related Articles
- XVII Classified Articles, Technical Data, and Defense Services Not Otherwise Enumerated
- XVIII Directed Energy Weapons
- XIX Gas Turbine Engines and Associated Equipment
- XX Submersible Vessels and Related Articles
- XXI Articles, Technical Data, and Defense Services Not Otherwise Enumerated

Exporting under the ITAR

An export as defined under the ITAR includes sending or taking a defense article out of the United States, disclosing (including oral or visual disclosure) technical data to a foreign person whether in the U.S. or abroad, or performing a defense service on behalf of a foreign person whether in the U.S. or abroad. (See 22 C.F.R. § 120.50 for a complete listing of export

meaning under the ITAR.) **This definition is extremely broad. It includes taking controlled technical data out of the United States on a laptop computer, regardless of whether or not that information is viewed or accessed while abroad. It also includes allowing a foreign person to view or use a defense article in the United States. Most exports of defense articles and defense services must be licensed by DDTC.**

Generally, a U.S. person that manufactures, brokers, or exports defense articles or services must be registered with DDTC. Registration is required prior to applying for a license or taking advantage of some license exemptions. Registered entities may apply for licenses, or permission, to export defense articles and defense services. DDTC reviews license requests on an individual basis and consults with other agencies, such as the Department of Defense, in consideration of the request. Exports of ITAR-controlled items are prohibited to some countries and individuals. DDTC country policies may be found at https://www.pmddtc.state.gov/ddtc_public?id=ddtc_public_portal_country_landing.

Commodity Jurisdiction

The DDTC has the responsibility to determine if an item or technology falls within the scope of the ITAR or if the item/technology is under the jurisdiction of the Department of Commerce for the purposes of export controls. While it is possible to self-classify an item, DDTC should be consulted if there is any doubt as to whether an article or service is subject to the ITAR. **At Penn, the Office of Export Compliance will assist with the submission of commodity jurisdiction requests as well with the determination of any export licensing requirements.**

Department of Commerce Regulations (EAR)

Regulatory Authority and Scope

The EAR controls the export of “dual-use” items, which are items that have civilian uses but that may also have military or other strategic applications. Common, real-life examples from Penn include certain chemicals, microorganisms, vectors, and toxins as well as laboratory equipment such as centrifuges, analyzers, and fabrication equipment, such as milling machines and etching equipment for electronics. These items are classified on the Commerce Control List (CCL). The CCL is a “positive list”; in other words, if an item is NOT listed on the CCL, then, generally, the EAR does not apply. The EAR also controls the export of purely commercial commodities in support of U.S. trade and embargo policies. Purely commercial items are classified as EAR99 and have very few export restrictions.

Many activities are not subject to the EAR. In addition to activities subject to the exclusive authority of another agency, e.g., the export of a defense article that is controlled under the ITAR, the EAR lists several exclusions from the regulations. These include published information, information resulting from fundamental research, educational information, and

the export or reexport of items with less than *de minimis* U.S. content (where applicable). It is important to understand the definitions and limitations of each of these exclusions in order to correctly evaluate their applicability to specific activities.

Important EAR Definitions and Concepts

Export is defined in 15 C.F.R. § 734.13 as an actual shipment or transmission of items subject to the EAR out of the United States as well as the release of technology or software subject to the EAR in a foreign country or to a foreign national either in the United States or abroad.

Deemed Export is defined in 15 C.F.R. § 734.13(a)(2) and 734.13(b). A deemed export is any release of technology or source code subject to the EAR to a foreign national, regardless of location. The release is deemed to be an export to the home country or countries of the foreign national. For the purposes of the EAR, legal U.S. permanent residents, naturalized citizens, and individuals protected under the Immigration and Naturalization Act (8 U.S.C. § 1324b(a)(3)) are not considered to be foreign nationals.

Reexport means an actual shipment or transmission of items subject to the EAR from one foreign country to another foreign country. It also means the release of technology or software subject to the EAR to a foreign national outside the United States (**deemed reexport**). Reexport is defined in 15 C.F.R. § 734.14.

De Minimis U.S. Content is the amount of U.S. content, as determined by percentage of value of the U.S. content in the end item, required to make a foreign produced item subject to the EAR. For some items, there is no *de minimis* content, meaning that any U.S. content will make the foreign-produced item controlled under the EAR. For other items, the *de minimis* U.S. content for foreign produced items may be 10% or 25% of the total value. See 15 C.F.R. § 734.4 for a complete discussion of the *de minimis* U.S. content rules.

Published is defined in 15 C.F.R. § 734.7. Information is published when it is accessible to the interested public in any form. Publications may take the form of periodicals, books, print, electronic, public web sites, or any other media available for general distribution. General distribution may be defined as available to an interested community, such as a technical journal available to scientists in a relevant field, so long as the price charged for the publication does not exceed the cost of reproduction and distribution. Articles submitted to journals for consideration for publication are considered to be published, regardless of whether or not they are accepted. Published information also includes information readily available in libraries (including university libraries), as well as patents and published patent applications. Finally, release of information at a conference open to the participation of all technically qualified persons is considered to be publication of that information. Software is considered published

when it is available for general distribution either free or at the cost of distribution. *However, strong encryption software remains controlled, regardless of general availability.*

Information and software that are released by instruction in a catalog course or associated teaching laboratory of an academic institution are not subject to the EAR (15 C.F.R. § 734.3(b)(3)(iii)). Educational Information is information released as part of a course listed in the university's course catalog, and through instruction in the classroom or teaching laboratory. Participation in the course should be open to any qualified student enrolled at the academic institution. Educational information is not subject to the EAR, even if the faculty member is teaching the class at an institution outside the United States.

Fundamental Research is *research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons* (15 C.F.R. § 734.8(c)). The complete definition and discussion of fundamental research, including university-based research is found at 15 C.F.R. § 734.8. University research is considered to be fundamental to the extent that researchers do not accept restrictions on the publication of scientific and technical information resulting from the research. Temporary delays in publication for the protection of sponsor proprietary information do not remove research from the fundamental domain. However, if that sponsor's proprietary information is subject to the EAR, then that information remains subject in the conduct of the research. **Penn researchers receiving proprietary information from corporate research sponsors should consult the Export Compliance Office to ensure compliance with the EAR in the conduct of the related research.**

The Commerce Control List

The CCL is found at 15 C.F.R. § 774, which may be accessed at <https://www.bis.doc.gov/index.php/regulations/commerce-control-list-ccl>. Items included on the CCL are assigned an export control classification number (ECCN) based on a category and product group. There are 10 categories, numbered 0-9, and five product groups, labeled A-E, within each category. The category and product group generally describe the item being classified, and the remaining three digits of the ECCN relate to the item specifications. An ECCN follows the nomenclature of “#α###,” where the first “#” is the category, “α” is the product group, and “###” identifies the reasons for control. As an example, a plasmid with certain genetic characteristics has an ECCN of 1C353. In general, “###,” with lower numbers are controlled to more destinations than those with higher numbers. The categories and product groups are as follows:

Commerce Control List Categories	
0	Nuclear Materials, Facilities, and Equipment (and Miscellaneous items)
1	Materials, Chemicals, Microorganisms, and Toxins
2	Materials Processing
3	Electronics
4	Computers
5 (Part 1)	Telecommunications
5 (Part 2)	Information Security
6	Sensors and Lasers
7	Navigation and Avionics
8	Marine
9	Aerospace and Propulsion

Commerce Control List Product Groups	
A	End items, Equipment, Accessories, Attachments, Parts, Components, and Systems (finished or unfinished goods)
B	Test, Inspection, and Production Equipment (manufacturing equipment)
C	Materials
D	Software
E	Technology

The EAR export licensing regime is much more flexible than that of the ITAR. Under the EAR, licensing requirements for export activities depend on what is being exported, the export destination, who will be using it, and what it will be used for. ECCN entries include a listing of the reasons for control that can be used in determining if an export license is necessary. While the most common controls are for anti-terrorism and national security, many other potential controls exist. The complete list of controls is found in 15 CFR § 742. The control list can be matched to the country chart to make a determination of whether or not a license is required and if an applicable license exception is available.

License Exceptions

While the CCL is much more extensive than the USML, many fewer licenses are required for items controlled under the EAR than under the ITAR. This is because of the many license exceptions that may be available for EAR-controlled exports. It is important to understand that

there are limitations on the use of license exceptions (see 15 C.F.R. § 740.2), and that the use of a license exception may have an associated recordkeeping and notification requirement. More than one license exception may be available for a proposed activity. In such cases, the use of the exception with the fewest restrictions on use and least notification and recordkeeping requirements minimizes compliance burden. Members of the Penn community are encouraged to consult with the Export Compliance Office when making decisions as to the applicability of EAR license exceptions for proposed export activities.

A complete listing of EAR license exceptions may be found in 15 C.F.R. § 740. Exceptions commonly applicable to members of the Penn community traveling abroad are BAG, which applies to personally owned items taken abroad for personal use while abroad, and TMP, which applies to the temporary export of Penn-owned equipment, including laptop computers and other equipment listed on the CCL, for work-related activities, including professional presentations, teaching, and field research. It is important to note that there are limitations on the use of the TMP license exception; items must be returned to the United States within 1 year of export, or if not returned, documentation of disposal is required. Items exported using the TMP license exception must be kept under the effective control of the traveler while abroad. Additionally, TMP is not applicable to some restricted locations, such as Cuba.

Commodity Classification

BIS encourages exporters to use the detailed descriptions in the CCL to self-classify items to be exported. However, in the event of an incorrect classification, the exporter is liable for any resulting violations of the EAR and may be subject to resulting penalties. Self-classification may be particularly difficult in the university environment where cutting edge-research pushes the boundaries of existing technologies, and in fact may not precisely meet the technical specifications as described in the existing CCL listings. When unsure about a self-classification, the exporter may submit the item/technology to BIS for a formal classification. Members of the Penn community who need assistance with classifying items should contact the Export Compliance Office.

Anti-Boycott Restrictions

The Anti-Boycott provisions of the EAR were designed and implemented to address foreign governments' boycott of countries friendly to the United States. The provisions were first implemented in response to the Arab League Boycott of Israel. Currently, Arab Countries including Iraq, Kuwait, Lebanon, Libya, Qatar, Saudi Arabia, Syria, and Yemen may require participation in an international boycott.³ Such companies are "blacklisted" under the boycott.

³ <https://www.federalregister.gov/documents/2022/01/03/2021-28399/list-of-countries-requiring-cooperation-with-an-international-boycott>

The anti-boycott provisions are found in 15 C.F.R. § 760. The provisions apply to any person or entity in the United States as well as to U.S. persons or entities abroad. For example, Penn is a U.S. person because it is located and organized under U.S. law. The anti-boycott provisions specifically prohibit the following activities:

- Agreement to refuse or actual refusing to do business with a boycotted country or with blacklisted person
- Agreement to discriminate or actual discrimination against other persons based on race, religion, sex, national origin, or nationality (for example, agreeing to refuse to hire Israeli nationals)
- Providing information about race, religion, sex, or national origin of another person
- Furnishing information about business relationships with boycotted countries or blacklisted persons (for example, providing information about current or previous business in Israel)
- Furnishing information about membership concerning associations with charitable and fraternal organizations
- Paying or otherwise implementing letters of credit containing prohibited conditions or requirements

Exceptions to these prohibitions exist but are limited. **Additionally, U.S. persons asked to engage in the prohibited activities are required to report the request to BIS.** If you encounter boycott language in a Penn activity, please contact the Office of Export Compliance for assistance in determining whether an exception is applicable and if reporting to BIS is required.

Department of Treasury Regulations (OFAC)

Regulatory Authority and Scope

The Office of Foreign Asset Controls (OFAC) administers and enforces economic and trade sanctions based on U.S. foreign policy and national security interests. Many of the sanctions are based on United Nations and other international mandates. Sanctions are country/program specific and are subject to frequent change based on the changing geopolitical landscape. In addition to foreign countries and regimes, OFAC imposes sanctions on individuals, such as people the U.S. government deems to be terrorists and narcotics traffickers. The implementing regulations for the OFAC sanctions are found in 31 C.F.R. §§ 500-599, the Foreign Asset Control Regulations.

The OFAC sanctions broadly prohibit most transactions between a U.S. person and persons or entities in an embargoed country or who have been declared specially designated nationals (SDNs). The prohibition generally includes importation and exportation of goods and

services as well as related financial transactions or engaging in business activities with SDNs. Currently, OFAC sanctioned countries include the **Balkans, Belarus, Burma, Central African Republic, Cuba, the Democratic Republic of Congo, Ethiopia, Iran, Iraq, Lebanon, Libya, Mali, Nicaragua, North Korea, Russia, Somalia, Sudan, Syria, Ukraine, Venezuela, Yemen, and Zimbabwe**. Additional activity-based sanctions programs include Counter Narcotics Trafficking, Counter Terrorism, Non-Proliferation, and Transnational Criminal Organizations sanctions as well as the Rough Diamond Trade Controls, among others. The activity-based sanctions programs are implemented through the designation of individuals engaging in the banned activities as SDNs. The OFAC sanctions program can change rapidly, so it is important to check for updates periodically.⁴

OFAC Licensing for Country Based Programs

It is important to review the specific sanctions program before conducting activities with an OFAC-sanctioned entity or person, or in an OFAC-sanctioned country. The individual sanctions specifically describe what activities are exempt from the embargo (for instance personal communications, exchange of informational materials, etc.) as well as what activities may be permitted under an applicable license. Activities that are permitted under a general license do not require specific permission from OFAC prior to engaging in the activity; however, the conditions of a general license must be carefully reviewed, and the use of the general license documented. Activities that do not fall under an available general license may be eligible for a specific license from OFAC. Specific license requests must be submitted and approved by OFAC prior to engaging in the sanctioned activity. Activities conducted under both general and specific licenses are subject to OFAC audit, and records must be maintained for five years after the conclusion of the activity. At Penn, the Export Compliance Office should be contacted when considering any proposed OFAC-sanctioned activities.

Additional Considerations

Records/ Record Retention

The ITAR, EAR, and OFAC regulations all stipulate record keeping requirements for regulated export activities. Under each of these sets of regulations, records must be retained for 5 years after the completion of the activity and made available to the regulating authority upon request. Records that should be retained include all memoranda, notes, correspondence (including email), financial records, shipping documentation, as well as any other information related to the export activities. Additionally, when a license exception (EAR) or license exemption (ITAR) is used, additional records documenting the applicability of the

⁴ <https://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx>

exception/exemption may be required, and in some cases, there may be additional reporting requirements.

Shipment of items controlled under the ITAR or EAR should be clearly marked as controlled with the appropriate regulatory control cited. Any licensed export, as well as exports with a dollar value greater than \$2,500 and some low-value shipments to certain countries, must be entered into the Department of Census Automated Commercial Environment (ACE) prior to the export of the item or information. While commercial freight forwarders will usually handle the ACE entry, the Export Compliance Office is able to assist the Penn community for the export of items being hand-carried or technical data being mailed or electronically transmitted.

Penalties for Export Violations

Violation of the export control laws can result in both civil and criminal penalties, including fines and imprisonment. Although there is a maximum amount for a civil or criminal penalty, the actual penalty is often multiplied. For instance, if multiple unauthorized shipments of the same item to the same end user were completed, each individual shipment could potentially incur the maximum penalty. Even a single unauthorized export may result in multiple violations (e.g., export without a license, false representation on shipping documents, acting with knowledge of a violation, etc.). Maximum penalties for violations under the OFAC, ITAR, and EAR are up to \$1,000,000 or more and criminal prison sentences can be up to 20 years for individuals engaging in the violations. Violation of the export control laws may result in the loss of future export privileges (EAR) or even from debarment from participation in future federal contracts (ITAR).

In assessing penalties, DDTC, BIS, and OFAC will consider mitigating factors. Mitigating factors include whether the disclosure of the violation was made voluntarily, whether the violation is an isolated incident or part of a pattern of continuing behavior, whether the company had a compliance program in place at the time of the violations, whether steps were taken to improve the compliance program after the discovery of the violation and whether the violation was due to inadvertence, mistake of fact, or a good faith misinterpretation of the laws.

Violations of export control laws discovered at Penn should be reported to the Export Compliance Office or to the Office of General Counsel. Additionally, the Penn compliance hotline (215-P-COMPLY or www.upenn.edu/215pcomply) is available for confidential reporting of suspected violations. Most importantly, if there is a question as to whether an activity would be a violation of the export control laws, it is important to consult with export liaisons or the Office of Export Compliance prior to engaging in the activity.

University of Pennsylvania Export Control Procedures

Commitment to Export Control Compliance

The University of Pennsylvania must comply with all applicable U.S. government export regulations. The vast majority of teaching and research activity at Penn falls within one or more of several exemptions and exclusions from licensing requirements. However, it is important to understand how the laws apply to activities at Penn as well as the corresponding compliance obligations, which may extend to documenting the applicable licensing exception(s).

The U.S. government defines exports to include not only tangible or “physical” items, such as biological materials, chemicals, and equipment, but also intangible information, which may include research data, formulae, engineering designs, and ideas. Furthermore, an export is defined not only as an actual physical shipment, but also includes electronic and voice transmissions out of the United States (e.g., email or a phone call to a colleague at a foreign institution or remotely accessing controlled documents while traveling internationally). Exports also include the release of technology to foreign nationals within the United States, the provision of training or services involving controlled equipment to foreign nationals in the United States or abroad and engaging in transactions or providing services to entities and individuals who are on embargoed or specially designated nationals lists.

Exports are controlled by multiple federal agencies, including: the Department of State through the International Traffic in Arms Regulations (ITAR), the Department of Commerce through the Export Administration Regulations (EAR), and the Department of Treasury through the Office of Foreign Assets Control (OFAC). Each agency has its own procedures for enforcement, but violations of any of these regulations can result in significant institutional and personal penalties including fines of up to or exceeding \$1,000,000 per violation, incarceration for up to 20 years, and the loss of future exporting privileges.

The University of Pennsylvania is committed to the preservation of academic freedom. However, the University recognizes its obligation to comply with the U.S. export control regulations. Fortunately, most, but not all, research activities on campus fall under the “fundamental research exemption,” which provides that basic and applied research activities NOT subject to publication or access restrictions will not be subject to export controls. Other exemptions apply to information shared in the conduct of teaching activities on campus IN the United States as well as to information that is already publicly available. The export regulations

are complex and continually changing, so it is important to consider each activity on an individual basis.

The Penn Office of Research Services (ORS) is responsible for helping the community understand and comply with the export control laws and apply for an export license when necessary. Please see <https://researchservices.upenn.edu/areas-of-service/export-compliance/> for additional information including analytical tools to assist you in determining if and how the regulations apply to an activity, as well as points of contact for assistance with export control matters. Questions regarding export control laws or procedures for compliance at Penn may be addressed to the Office of Export Compliance at 215-573-8817 or expctrl@lists.upenn.edu.

Roles and Responsibilities for Export Controls at Penn

The Roles and Responsibilities matrix for ensuring compliance with export control laws at Penn is included as Appendix 1. While it is the responsibility of senior university management and senior school administrators to ensure the existence of adequate resources and management support to comply with the export control regulations and to resolve identified export control issues, the discussion below focuses on other key actors in export compliance at Penn.

Empowered Officials

The Associate Vice Provost and Vice President for Research, an Associate General Counsel, and the Director of Export Compliance are the University of Pennsylvania's Empowered Officials for export control matters. In this capacity, the Empowered Officials have the authority to represent the university before the export control regulators in matters related to registration, licensing, commodity jurisdiction and classification requests, and voluntary or directed disclosures. While certain oversight functions may be delegated, only Empowered Officials may sign paperwork and bind the university in any proceeding before DDTC, BIS, OFAC, or any other government agency with export control responsibilities.

Director of Export Compliance

The Director of Export Compliance, together with the Export Liaisons and senior management:

1. identifies areas at Penn that are impacted by export control regulations
2. develops export control procedure guidance to assist the university in remaining in compliance with export control regulations
3. educates inventors, principal investigators, research centers, and academic units about export control regulations and procedures at Penn

4. educates others at Penn, such as Business Services, Procurement, Travel, Global Support Services, International Student and Scholar Services, Human Resources, and the Penn Center for Innovation, about export control regulations and procedures at Penn
5. monitors and interprets export control legislation
6. works with others such as the Export Liaisons to facilitate understanding and compliance with export controls
7. assists investigators, researchers, and offices at Penn when research involves export-controlled equipment or information
8. seeks advice from the Office of General Counsel in analyzing and handling export control compliance issues
9. assists the PI in developing a technology control plan for research involving export-controlled items or information to ensure compliance with export control regulations
10. applies for export licenses, commodity jurisdiction and commodity classification requests
11. advises and assists with record keeping for export-controlled activities at Penn
12. maintains the export controls website

Export Liaisons

The export liaisons are individuals appointed from academic and business units across campus to assist the Office of Export Compliance in identifying training needs, identifying potential export control issues, and to serve as local points of contact for questions related to export controls. The export liaisons are trained and have access to software to perform restricted party screening. The export liaisons meet with the Office of Export Compliance on a regular basis to promote the export compliance program at Penn.

Office of Research Services, Penn Center for Innovation, and the Office of Clinical Research

The Office of Research Services (ORS), Penn Center for Innovation (PCI), and the Office of Clinical Research (OCR) provide assistance and expertise in export controls by working closely with the Director of Export Compliance in identifying export control issues and providing support for their solution. ORS, PCI, and OCR have the sole authority to bind the University to research-related agreements on behalf of The Trustees of the University of Pennsylvania. They:

1. review terms of sponsored program agreements, material transfer agreements, and other non-monetary agreements to identify restrictions on publication and dissemination of research results and to negotiate out such restrictions
2. assist PIs in identifying international components of sponsored program agreements, identifying potential export control issues in the proposed international component and

verifying that the international entities and individuals are not restricted parties or specially designated nationals

3. communicate identified potential export control issues to the PI and the Office of Export Compliance
4. communicate with the Office of Export Compliance about any changes in awards that necessitate another review of the project for export controls

Research Administrators

The school and department research administrators work closely with ORS and the PI. Together with ORS, they:

1. assist PIs in reviewing terms of sponsored program agreements, material transfer agreements, and other non-monetary agreements to identify restrictions on publication and dissemination of research results and flag such restrictions in agency requests for proposals
2. assist PIs in identifying international components of sponsored program agreements, identifying potential export control issues in the proposed international component
3. communicate identified potential export control issues to the PI and the Office of Export Compliance
4. communicate with the Office of Export Compliance and ORS about any changes in awards that necessitate a re-review of the project for export controls

Business Administrators

The school and department business administrators assist in ensuring compliance with export control regulations by identifying potential export issues in unit activities. Such issues may include reviewing invoices for statements that items may not be exported, ensuring that international shipping is compliant with export control laws, ensuring that payments do not go to, or contracts are not entered into with, anyone on the then-current Specially Designated Nationals (SDN) list, ensuring that international travel is compliant with applicable export control regulations, and ensuring that visa export certification information has been completed.

Principal Investigators

PIs have expert knowledge of the type of information and technology involved in a research project or other university activity, such as presenting at conferences and discussing research findings with fellow researchers or collaborators. PIs must ensure that they do not disclose controlled information, such as information that has been provided to them under a corporate non-disclosure agreement or transfer controlled articles or services to a foreign national without prior authorization as required. Each PI must:

1. understand his/her obligations under the export control laws

2. assist the Office of Export Compliance in correctly classifying technology and items that are subject to export control laws
3. assist in developing and maintaining the conditions of a technology control plan for any activity, data, or equipment where the need for such a plan is identified
4. ensure that research staff and students have been trained on the technology plan and on the export control regulations should any apply

Export Control Analysis

An export control analysis should be performed when a PI submits a proposal, receives an award, or changes the scope of an existing project.

ORS performs an initial review of the request for proposal, broad agency announcement, or award. A checklist is available to help identify potential export control issues (see Appendix 2). The ORS grant and contracts staff is trained to identify the following red flags that indicate the possible presence of export control issues:

1. references U.S. export control regulations (beyond a mere statement to comply with the law)
2. restricts access or participation based on country of origin
3. restricts the use of proprietary or confidential information
4. grants the sponsor pre-publication review and approval for matters other than the inclusion of patent or sponsor proprietary/confidential information
5. allows the sponsor to claim the results or data generated in the agreement as proprietary or trade secret
6. involves export-controlled equipment (if known)
7. includes foreign sponsors or collaborators
8. travel, shipping, or work outside of the United States
9. military applications of project results

All non-U.S. persons are screened against the specially designated and restricted parties lists. Export-controlled equipment, data, or technology is identified and referred to the Office of Export Compliance.

Technology Control Plans (TCP)

When export-controlled equipment, data, or technology is identified for a project, the Office of Export Compliance will work with the PI to develop and implement a TCP to appropriately secure the equipment, data, or technology from access by unlicensed non-U.S. persons (see Appendix 3 for the annotated TCP template). The TCP will include

1. a commitment to export control compliance

2. identification of the applicable export controls and items or technologies subject to the controls
3. a description of the agreed upon security measures to control the item/technology, including as appropriate:
 - a. Laboratory compartmentalization
 - b. Time blocking
 - c. Marking
 - d. Locked storage
 - e. Electronic security
 - f. Confidential communications
4. identification and nationality of each individual who will have access to the controlled item or technology
5. personnel screening measures for granting access to the controlled item/technology
6. appropriate security measures for disposal of the item/technology when use is complete

Before any individual may have access to export-controlled items or technology, he or she must be informed of the conditions of the TCP and agree to comply with the security measures outlined in the TCP.

Licensing

Licenses from OFAC may be required in support of international university activities in embargoed countries. Licenses from the Department of State or the Department of Commerce may be required for the export of Penn-owned equipment in support of international activities. Additionally, export licenses may be required in order for foreign nationals to access controlled items or technology at Penn. The Empowered Officials are the individuals at Penn authorized to apply for licenses. In the event that a license is required, the Director of Export Compliance with the advice of the Office of General Counsel as required, will prepare and sign the necessary documentation for preparing the license request. The Director of Export Compliance will be responsible for maintaining records associated with license requests.

Penn personnel who are unsure about licensing requirements for proposed international activities or the use of controlled equipment by foreign nationals should consult with the Office of Export Compliance prior to engaging in the activity.

Training

Training is the foundation of a successful export compliance program. Well-informed employees minimize the likelihood that inadvertent violations of the law will occur. The greatest risk of non-compliance of export laws and regulations occurs during casual

conversations in person, on the telephone, or via e-mail. The way to prevent these types of violations is through awareness and training.

The Office of Export Compliance will prepare updated training materials and will ensure that employees or students engaged in export-controlled activities receive the appropriate briefing. The office will also maintain records of training or briefings provided. In addition to in-person training sessions, training on export controls is available in the Knowledge Link system. Additional resources addressing special topics are available on the export control web page found at <https://researchservices.upenn.edu/areas-of-service/export-compliance/>.

The Export Liaisons will assist the Office of Export Compliance in implementing the export control training sessions or briefings relative to their respective schools, departments, centers, or institutes and business units. Export Liaisons will work with senior management as necessary to implement export training to fit the individual unit needs.

Recordkeeping

Penn's policy is to maintain export-related records based on individual controlled items or activities. Unless otherwise provided for or instructed by the Office of the General Counsel, all records shall be maintained consistent with the Penn record retention policy and shall be retained no less than 5 years after the TCP termination date or license termination date, whichever is later.

If ITAR-controlled technical data is exported under an exemption, certain records of the transaction must be kept even beyond Penn's 5-year retention period.⁵ Those records include

- a description of the unclassified technical data
- the name of the recipient/end-user
- the date/time of export
- the method of transmission (*e.g.*, email, fax, telephone, FedEx); and
- the exemption under which the export took place.

Note that information that meets the criteria of being in the public domain, being educational information, or resulting from Fundamental Research is not subject to export controls under the ITAR. Therefore, the special requirement for recordkeeping when using an exclusion, exception, or exemption may not apply. However, it is a good practice to provide such description for each export to establish a record of compliance.

⁵ See 22 C.F.R. §§ 122.5 and 120.15(e).

BIS has specific record-keeping requirements.⁶ Generally, records required to be kept by EAR must be kept for a period of 5 years from the last export date. However, if BIS or any other government agency makes a request for such records following a voluntary self-disclosure, the records must be maintained until the agency concerned provides written authorization otherwise.

Monitoring and Auditing

To maintain Penn's export compliance program and to ensure consistent adherence to U.S. export laws, the Office of Export Compliance may conduct internal reviews of TCPs and export records. The purpose of the reviews is to: (i) identify possible violations; and (ii) identify deficiencies in training, procedures, etc. that can be rectified.

Detecting and Reporting Violations

Any individual who suspects a violation has occurred must immediately take steps to prevent any further violations and notify the Office of Export Compliance, the Office of General Counsel, or the Compliance Hotline (215-P-COMPLY). The Office of Export Compliance will work with OGC to determine the appropriate follow-up to the notification, which may include a voluntary self-disclosure to the government. An empowered official may send an initial notification about the suspected violation to the appropriate government agency.⁷ The Office of Export Compliance, assisted by OGC, will conduct an internal review of the suspected violation by gathering information about the circumstances, personnel, items, and communications involved. Once the review is complete, the Director of Export Compliance may provide the government agency with a supplementary letter with a thorough narrative account of

1. the project's description and background
2. a description of the suspected violation
3. which items and controlled categories were involved
4. which dates the violations occurred on
5. which countries were involved
6. who was involved and their citizenships
7. an explanation of why the alleged violation occurred;
8. any corrective actions taken; and
9. Penn's commitment to export controls compliance

Once the initial notification and supplementary letter have been sent, Penn will follow the government agency's instructions.

⁶ See 15 C.F.R. § 762.6.

⁷ For EAR violations, see 15 C.F.R. § 764.5. For ITAR violations, see 22 C.F.R. § 127.12(c).

Glossary of abbreviations

AECA	Arms Export Control Act
AES	Automated Export System
BIS	Bureau of Industry and Security
CCL	Commerce Control List
DDTC	Directorate of Defense Trade Controls
EAR	Export Administration Regulations
ECCN	Export Control Classification Number
ITAR	International Traffic in Arms Regulations
OFAC	Office of Foreign Asset Controls
ORS	Office of Research Services
SDN	Specially Designated National
TCP	Technology Control Plan
USML	United States Munitions List

Appendix 1: Roles and Responsibilities Matrix

Roles and Responsibilities for Export Compliance at Penn

	Ensure adequate resources	Identify issues	Resolve Issues	Screen foreign nationals	Identify controlled items/activities and applicable regulations	Classify items/activities within ECLs	Licensing determinations	Apply for licenses	Training	Recordkeeping	Technology Control Plans	Security	Advise on Issues	Point of Contact (external)
Senior University Management	X		X											
Senior School Administration	X		X									X		
Empowered Officials	X	X						X					X	X
Dir, Exp Comp	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Export Liaisons		X		X					X				X	
Pls		X		X	X	X			X	X	X	X		
Research Staff		X		X	X	X			X	X	X	X		
ORS		X		X	X	X			X	X				
RAs		X		X						X				
BAs		X		X	X					X				
Purchasing				X	X	X								
PCI		X		X	X	X								
GSS		X		X						X				
OCR		X		X	X									
OGC							X						X	X
OACP		X												
EHRs		X										X		
ISC												X		
Risk Management		X												

Appendix 2: Export Control Agreement Review Form

University Of Pennsylvania Agreement Review for Export Controls

Title of Sponsored Project:

Proposal/Award Number:

Principal Investigator:

Department/Center/College:

Sponsor:

Does the Agreement include any clause that:	Yes	No
references U.S. export regulations		
restricts non-U.S. entity participation based on country of origin?		
prohibits access of non-U.S. citizens to project information?		
indicates UPenn will be receiving proprietary information?		
restricts the use of proprietary/confidential information?		
grants the sponsor the right to prepublication review and approval?		
allows the sponsor to claim results or data generated under the Agreement as proprietary or trade secret?		
references DFAR clause 252.204.7012?		
Does the project include:		
purchase or loan of equipment that is export controlled (if known)?		
international travel?		
shipment of equipment, data, or research materials internationally?		
international collaboration?		
payments to or receiving payment from OFAC-restricted locations (https://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx)?		
prohibition against doing business with Israel or any other nation in the execution of the agreement?		
activities that require hiring and/or paying individuals outside the US?		
An expectation for Penn Faculty, staff or students to spend more than 30 days in a non-US location? Specify 30, 60 or 90		

Completed by:

Date:

Appendix 3: Technology Control Plan Template

<https://researchservices.upenn.edu/document/technology-control-plan-tcp-template/>

UNIVERSITY OF PENNSYLVANIA OFFICE OF RESEARCH SERVICES TECHNOLOGY CONTROL PLAN (TCP)

The purpose of the Technology Control Plan is to ensure compliance with federal laws or contract commitments regarding export control compliance and/or confidentiality. In general, a Technology Control Plan is a written document, signed by the person at Penn responsible for complying with the terms in the plan and one of Penn's empowered officials for export control compliance, which outlines the terms upon which particular items, technical data, or technology may be kept and used on campus and/or outside the United States. The applicable laws might include, for example, the Department of State's International Traffic in Arms Regulations (ITAR), the Department of Commerce's Export Administration Regulations (EAR), or other legal obligation(s).

We want this Plan to be as accurate as possible, so if there is any information you do not understand, or that is inaccurate, please contact Penn's Director of Export Compliance at exoctrl@lists.upenn.edu.

1. **Primary Responsible Party (Principal Investigator, Person in Whose Lab or Office the Item/Technical Data will be stored/reside):**

2. **Contact Information (Phone, Email, Physical Address on Campus) for Primary Responsible Party:**

Primary Phone:

Primary Email:

Physical Address:

3. **(Optional) Name and Contact Information for an Additional Administrative Contact for the Primary Responsible Party (e.g., a Business Administrator, a Secretary, etc.)**

Please list lab manager or coordinator or other staff person who will be responsible for maintaining the technology control plan and who will serve as the contact person for questions concerning the plan if applicable.

4. **Description of the Item, Technology or Technical Data (e.g. manufacturer notified you that equipment is controlled or you have received the data as part of a non-disclosure agreement that indicated information is export controlled):**

For equipment, list the items including manufacturer and model number.

For technology (e.g. software) list the name and version of the program.

If you have received information as part of a non-disclosure agreement related to the effort, state who the parties to the agreement are and the general nature of the restriction (e.g. information is company proprietary and controlled under the ITAR or EAR)

5. **Detailed description of why the Item, Technology or Technical Data is controlled (e.g. this equipment is an item controlled under the ITAR, this data or technology may not be exported from the U.S. without prior authorization)**

Please list the reason for control. For instance, to obtain the software license, we were required to agree not to export the software. If known, please provide the applicable control number for items enumerated on the Commerce Control List.

Another example might be that the manufacturer provided a statement that the equipment is controlled under the ITAR and we may not export it without a license from the Department of State Directorate of Defense Trade Controls.