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1. What are Export Controls?

The term “Export Controls” refers collectively to the body of U.S. laws and regulations that govern the transfer of controlled items or information to foreign persons or foreign entities or foreign countries. The regulations are very complex and the interdependency of a section within a regulation or the applicability of the various laws and regulations require careful review.

2. What is an Export?

The term Export, as used in export control regulations has an expansive meaning. Generally, an export includes any: (1) actual shipment of any covered goods or items; (2) the electronic or digital transmission of any covered goods, items, or related goods or items; (3) any release or disclosure, including verbal disclosures or visual inspections, of any technology, software or technical data to any foreign person wherever located; or (4) actual use or application of covered technology on behalf of or for the benefit of any foreign entity or person anywhere. The official definition of export under the EAR and ITAR should be consulted when determining whether a specific act constitutes an export. As is evident in many instances, Export is defined so as to preclude the participation of foreign graduate students in research that involves covered technology without first obtaining license from the appropriate government agency.

Therefore, an export occurs whenever any item (i.e., any commodity, software, technology, or equipment) or information is sent or released from the U.S. to a foreign destination or provided to a foreign person in the U.S. or abroad. Some examples of export activities include: the shipment of items, written or oral communications, hand-carrying items when traveling, providing access to or visual inspection of equipment or facilities, and providing professional services. It can be:

- Any oral, written, electronic or visual disclosure, shipment, transfer or transmission outside of the United States to anyone, including a U.S. citizen, of any commodity, technology (information, technical data, or assistance) or software/codes.
- Any oral, written, electronic or visual disclosure, transfer or transmission to any person or entity of a controlled commodity, technology or software/codes with an intent to transfer it to a non-U.S. entity or individual, wherever located (even to a foreign student or colleague at the Rensselaer).
- Any transfer of these items or information to a foreign embassy or affiliate.

3. Which federal government agencies control exports?

There are three primary government agencies that promulgate, administers and enforces export regulations:

- ITAR - International Traffic in Arms Regulations
- EAR - Export Administration Regulations
- OFAC- Office of Foreign Assets Control
• The United States Department of Treasury’s Office of Foreign Assets Control (OFAC) through the foreign asset control regulations, 31 CFR 500, administers and enforces economic and trade sanctions based on US foreign policy and national security goals against targeted foreign countries, terrorists, and those engaged in activities related to the proliferation of weapons of mass destruction.
• The United States Department of Commerce through its Export Administration Regulations (EAR), Title 15, sections 730-774 of the Code of Federal Regulations. For a list of controlled technologies, see 15 CFR 774, Supplement I.
• The United States Department of State (which controls the export of “defense articles and defense services”) under the International Traffic in Arms Regulations (ITAR), 22 CFR 120-130. For a list of controlled technologies, see 22 CFR 121.1.
• In addition, the U.S. Customs and Border Protection (USCBP) is also charged with the enforcement of these regulations along with imports/exports at ports of entry or departure from the U.S. of all tangible items.
• Additional government agencies, but not limited to, are the DOE, NRC, NASA, DOT and DOA.

4. How do I know if my item is subject to the Export Administration Regulations (EAR)?

The EAR controls all items (commodities, software, or technology) that are: 1) of U.S. origin; or 2) are made with U.S. materials, technology, or know-how; or 3) are located in the U.S. AND that are NOT under the exclusive jurisdiction of another regulatory body (e.g., ITAR or Nuclear Regulatory Commission) or that are NOT shielded from export controls under the Fundamental Research, Educational Information, or Public Information exclusions.

5. What is Fundamental Research (FR)?

Fundamental Research, as used in the export control regulations, includes basic or applied research in science and/or engineering at an accredited institution of higher education in the United States where the resulting information, in some cases, is ordinarily published and shared broadly in the scientific community and, in other cases, where the resulting information has been or is about to be published. Fundamental Research (FR) is distinguished from research that results in information that is restricted for proprietary reasons or pursuant to specific U.S. government access and dissemination controls. University research will not be deemed to qualify as fundamental research if:

• The university or research institution accepts any restrictions on the publication of information resulting from the research, other than limited prepublication reviews by research sponsors to prevent inadvertent divulging of proprietary information provided to the researcher by the sponsor; or
• The research is federally funded and specific access or dissemination controls regarding the resulting information have been accepted by the university or the researcher.

6. How does Fundamental Research affect a researcher?

• By law, Fundamental Research does not have an interpretation as most would take it to mean. It is a federal regulatory term that covers the accessibility of all research results,
results published without any restrictions, hold out or decision not to release to the public and the unrestricted engagement of non-proscribed foreign persons.

- With respect to Federal Export Control Laws, i.e., the EAR, ITAR, RNC and DOE, fundamental research is strictly defined and addresses only the unrestricted publication of all research results without any restriction. A researcher, and particularly a PI, needs to be cognizant that FR does have export control compliance requirement associated with the execution of the research work, activity, software programs used and other tools (equipment, instrumentation, computer systems, etc.) to which a foreign person may have access and use during the course of the research. The tools or the software program and/or the methodology for conducting the work could be “deemed” export controlled and may require a license. It is important to ascertain a way to conduct the research work and how the research tools will be used to remain within the law or not incur inadvertently into an unintentional violation. By way of the latter, it is the PI who has the best aspect of understanding the capabilities of the tools, software and methodology to address export control questions of concern before proceeding. The Export Control Office should be contacted to help in addressing these questions.

7. What is the Fundamental Research Exclusion (FRE)?

Fundamental Research Exclusion (FRE) is an exclusion granted to an accredited institution of higher education located in the U.S. It is defined by the National Security Decision Directive 189 (NSDD189) as “any basic or applied research in science and engineering, the results of which are ordinarily published and shared broadly within the scientific community…” In order to qualify as Fundamental Research, the research must be conducted free of any publication restrictions and without any access or dissemination restrictions. Research that qualifies as Fundamental Research is NOT subject to export controls as provided for under the federal EAR regulations (15 CFR §734.8). It is critical to note that the Fundamental Research Exclusion will be lost if a researcher agrees to any “side-deals” allowing sponsors the ability to review and approve publications or to control access to the project or project results. Loss of the Fundamental Research Exclusion can quickly put your research in jeopardy of non-compliance with export controls. Seeking the help of the Export Control Office, exportcontrol@rpi.edu, is recommended.

8. Who is a Foreign Person?

A foreign person is defined as any natural person/individual who is not a U.S. citizen, or is not a lawful permanent resident of the U.S. (i.e., does not have a green card), or who does not have refugee or asylum status.

9. What is a Foreign Entity?

A foreign entity is any corporation, business, or other entity that is not incorporated to do business in the U.S. This includes international organizations, foreign governments, or any agency of a foreign government.
10. What is the Educational Information Exclusion?

The Educational Information Exclusion, is information that is normally taught or released by a university as part of the normal instruction and listed in a course catalog or in an associated teaching laboratory is considered Educational Information and, as provided for under the federal EAR regulations (15 CFR§734.9), is NOT subject to export controls.

11. What is the Public Information Exclusion?

Public Information Exclusion is information that is already published or is out in the public domain is considered public information and, as provided for under the federal EAR regulations (15 CFR§734.7 and 15 CFR§734.10), is NOT subject to export controls. Examples of information in the public domain include:

- Books, newspapers, pamphlets.
- Publically available technology and software.
- Information presented at conferences, meetings, and seminars open to the public.
- Information included in published patents.
- Websites freely accessible by the public.

12. What is Deemed Export?

A Deemed Export refers to the release or transmission of information or technology to any foreign person in the U.S., including students, post-docs, faculty, visiting scientists, or training fellows. A deemed export is treated as an export to that person’s home country. Deemed exports are a primary area of export control exposure for the university.

13. When should a Rensselaer PI, faculty, staff, postdoc, student, etc. become concerned about Export Controls?

A “yes” answer to any of the following questions indicates that the research, information to be released or research tool to be used might be subject to export controls and should be reviewed by the Export Control Office:

- Research involves export restricted science and engineering areas including defense articles or services, missiles, chemical & biological weapons, nuclear technology, work with designated select agents, high performance computing, and encryption technology.
- Research involves the use of controlled unclassified information, export controlled information, items, or technology (e.g., export restricted information or controlled IR cameras or technology received from outside the university).
- Research involves the transfer of project information, equipment, materials, or financial support out of the U.S. (e.g., sending project deliverables or providing funding via a subcontract)
- Any part of the research will take place outside the U.S. or will include international travel (e.g., field work outside the U.S., attending an international conference to present results, or providing professional services)
• Research involves foreign individuals as faculty, visiting scientists or collaborator(s), or other foreign entities (e.g., non-U.S. company, university, or other organization).
• Foreign Person graduate students, trainees, or other Rensselaer employees will be involved in the research and the research has not yet been determined to be Fundamental Research by the Export Control Office.

14. What kinds of activities can trigger the need for an export license?

The following are examples of the types of Rensselaer activities that may trigger the need for an export license or deemed export license:

• Research in controlled or restricted areas (e.g., defense items or services, missiles, nuclear technology, satellites, chemical/biological weapons, encryption)
• Research involving the use of export restricted information obtained from external sources
• Research involving collaborations with foreign persons located at RPI or overseas
• Research involving travel or field work done overseas
• Research involving the transfer or shipment of tangible items or equipment overseas
• Presentations at meetings or conferences of unpublished information not protected under the Fundamental Research or Educational Information exclusions
• Research involving the provision of financial support or services outside the U.S.
• Training foreign persons or foreign entity on the use, repair, maintenance, etc. of a controlled item.

15. What is meant by the EAR99 classification?

EAR99 is the general “catch-all” classification number assigned to any item that is subject to the EAR, but that does not have a specific export control classification number listed in the Commerce Control list (CCL). By far, the vast majority of U.S. origin goods are classified as EAR99, and under most exports, deemed export, etc. circumstances, do not require a license for export. To note, there are embargoes that restrict the export of EAR99 items, information, etc.

16. What is an Export License?

An Export License is a written authorization provided by the federal government granting permission for the release or transfer of export controlled information or item under a defined set of conditions.

17. How do I know if I need a license?

Determining when you need an export license can be very complicated. The Export Control Office can assist you in determining if a license is required and/or if there is a valid license exception or other exclusion that may apply. Contact the Export Control Office at exportcontrol@rpi.edu for help with export controls.
18. What is an Export License Exception?

An Export License Exception is a special authorization that allows one to export or re-export, under very specific conditions, items that would otherwise require an export license. Export License Exceptions are detailed in EAR, 15CFR740. The Export Control Office, exportcontrol@rpi.edu, will help in assessing and determining if an exception is applicable.

19. Are commercially available items free from export control licensing requirements?

For most low-end items that are commercially available, do not require export licenses. There are some important exceptions including items containing strong encryption technology or software (e.g., laptop computers, web-enabled cell phones), items that have dual use applications (e.g., high end GPS units), or that are restricted under other regulations or sanctions.

20. Do export controls apply if one is doing basic research at Rensselaer in collaboration with a foreign person at a foreign entity (laboratory)?

Yes, export controls apply to all international research activities. In general, basic research conducted at the institution is not subject to export controls under the Fundamental Research Exclusion as long as it is not in an export restricted area and there are no restrictions on publication or access by foreign persons. However, in cases where Rensselaer research involves collaborations with foreign persons, the Institution must perform a review of the research and document that the Fundamental Research Exclusion or other exclusion does or does not apply.

21. Do export controls apply if there is no external funding supporting one’s activities?

Yes, export controls apply to all research activities regardless of funding status or source.

22. What is a Technology Control Plan and when is one proscribed?

A Technology Control Plan (TCP) is a document drafted by the researcher in collaboration with the Export Control Office and in those situation with their department chair specifying procedures that will be taken in order to safeguard and control access to information or items that are export restricted. In general, a TCP will outline what the restricted information/item is, who will have access to it, how access will be monitored and controlled, how the information/item will be physically and electronically stored, what information about it can be shared or presented, and what will be done with the information/item once the project is completed. Contact exportcontrol@rpi.edu for more information on TCPs.

23. Who is responsible for graduate students and postdoctoral export control compliance?

It is the PI’s responsibility, by U.S. Federal Law, to be knowledgeable of a foreign person’s citizenship and VISA compliance status, while under their supervision; this is independent of the PI being a lawyer. The PI’s export control responsibility, again under U.S. Federal Law, covers the work and tools that a foreign person will use during the performance of the work. It is also the PI that will be the first person held responsible for any export control violation if one should
occur. As such, fines and penalties may be applicable in addition to negatively impacting Rensselaer’s name and reputation. To rely on “I am not a lawyer” is inappropriate because the responsibility remains whether or not a signature is obtained on a requested documentation.

24. What kinds of projects raise export control questions?

Basically, any research activity may be subject to export controls if it involves the actual export or “deemed” export of any goods, technology, or related technical data that is either: i) “dual use” (commercial in nature with possible military application) or ii) inherently military in nature.

Work in the following areas is considered high risk:

- Engineering,
- Space sciences,
- Computer Science,
- Biomedical research with lasers,
- Research with encrypted software,
- Research with controlled chemicals, biological agents, and toxins.

In addition, any of the following raise export control questions for a project:

- Sponsor restrictions on the participation of foreign persons in the research.
- Sponsor restrictions on the publication or disclosure of the research results.
- Indications from the sponsor or others that export-controlled information or technology will be furnished for use in the research.
- The physical export of controlled goods or technology is expected.

25. Who is ultimately responsible for a research project’s overall compliance with the export control regulations?

It is the researcher’s, and particularly the PI’s, responsibility to know the objective and subjective aspect of the research engagement. This requires the awareness of a project’s use and end-use, concern for national security and foreign policy with respect to the use of the research activity in a way that is contradictory to U.S. concerns and may contribute to undesirable outcomes.

26. How can export controls affect my research?

“Export” is defined not only as a physical transfer/disclosure of an item outside the U.S., but also as a transfer/disclosure in any form of a controlled item or information within the U.S. to anyone who is a foreign person (not a U.S. citizen or permanent resident). This is called the “deemed export” rule. As a result, unless an exclusion or exemption is available, the Institution may be required to obtain prior governmental approval (in the form of an export license) before allowing the participation of a foreign person faculty, staff, or student in affected research. In some cases, a license may not be available at all based on the country involved.
In addition to affecting who may participate in the research project on campus, the following are examples of situations in which a license may be required:

- Presentation/discussion of previously unpublished research at conferences and meetings where foreign person scholars may be in attendance.
- Research collaborations with foreign persons and technical exchange programs.
- Transfers of research equipment abroad.
- Visits to your lab by foreign scholars.

27. What is involved in assigning a foreign person as a graduate student, postdoc or H-1b Visa researcher to a research project be it thesis work or controlled development project or the use of a controlled item?

It is important to be cognizant in the case of assigning a project to a foreign person that a deemed export license may be required before that individual can be involved, in any manner, with the details of a project. The deemed license application can take several months to be processed and there is no assurance that it will be granted. Also, there is no way to facilitate or expedite the government's review process. During the wait period, the foreign person, for whom the deemed license application is made, cannot in anyway be associated with the research project.

28. What is considered published information?

The EAR and ITAR approach the issue of publication differently. For the EAR, the requirement is that the information has been, is about to be, or is ordinarily published, 15CFR734.7. The ITAR requirement is that the information has been published and generally accessible to the public, 22CFR120.11.

Information becomes “published” or considered as “ordinarily published” when it is generally accessible to the interested public through a variety of ways. Publication in periodicals, books, print, electronic or any other media available for general distribution to any member of the public or to those that would be interested in the in a scientific or engineering discipline. Published or ordinarily published material also includes the following:

- Readily available at libraries open to the public;
- Issued patents; and,
- Releases at an open conference, meeting, seminar, trade show, or other open gathering.

29. How do export control regulations impact participation in a conference?

A conference is considered “open” if all technically qualified members of the public are eligible to attend and attendees are permitted to take notes or otherwise make a personal record (but not necessarily a recording) of the proceedings and presentations. In all cases, access to the information must be free or for a fee that does not exceed the cost to produce and distribute the material or hold the conference (including a reasonable profit).
30. What happens when one obtains or uses export controlled information from an outside entity?

Research conducted at Rensselaer that includes or uses export controlled or controlled unclassified information or restricted information or items obtained from an outside entity does not qualify for the Fundamental Research Exclusion and would be subject to all export controls. Before export controlled information or an item is received by the researcher, the incoming export controlled information must be received by the Rensselaer’s Director, RAF, and reviewed to ascertain the nature of the information, discuss with an export control approved person to determine the need and use and potential exposure of a foreign person to the information. The researcher will also need to complete the Certification on the Handling of Export-Controlled Information prior to release by RAF. In some cases, a formal Technology Control Plan will need to be created depending on the specific circumstances. Contact exportcontrol@rpi.edu for help in determining your requirements.

31. If one’s research is exempt from export controls under the Fundamental Research Exclusion, can one ship items developed as part of that research overseas?

Not automatically. While research results developed or generated under the Fundamental Research Exclusion are exempt from export controls and can be freely shared with foreign persons both here and abroad, any materials, items, technology, or software generated as a result of the research ARE NOT exempt from export controls. Before shipping or taking any item abroad, an export control determination as to recipient, end-user, host country and end-use, is required to determine if an export license is required to export as defined in question 3. Contact exportcontrol@rpi.edu for help in determining your license requirements.

32. Do export controls apply if one is working overseas as a consultant?

Export controls apply to all U.S. persons, at all times. It is important to understand and comply with one’s obligations under the export control regulations. If one is consulting in a restricted technology area (e.g., on dual-use technologies or select agent work), then you, as the individual, may need an export license depending on the country associated with the engagement, what information will be provided, who will be the recipient/end-user, and what the recipient/end-user intend to do with it as end-use. If the destination is a foreign person of a sanctioned country (especially Iran, Syria, Cuba, Sudan, or North Korea), or end-user is a proscribed foreign person then in most cases any consulting activities would be prohibited regardless of the subject matter. For more information, contact the Export Control Office.

33. What is the current list of sanctioned and embargoed countries?

At present, January 2017, the U.S. government administers and enforces technical, military and economic sanctions targets in support of foreign policy, national security or the economy. These sanctions target foreign countries and regimes, business entities and individuals that covers national security, cyber-security, economic policy, and terrorism. In varying degrees, the countries currently sanctioned by the U.S., and many individuals and entities of the international community, are Afghanistan, Balkans (Albania, Bosnia & Herzegovina, Bulgaria, Croatia,
Kosovo, Montenegro, Romania, Serbia, Slovenia and Macedonia), Belarus, Central African Republic, Cuba, Democratic Republic of the Congo, Eritrea, Haiti, Iran, Iraq, Lebanon, Libya, North Korea, People’s Republic of China, Southern Sudan, Russian Federation, Somalia, Syria, Yemen, Venezuela and Zimbabwe. Many other countries have limited sanctions on specific items and technology that require an export license to permit exporting or re-exporting.

The list of countries is always subject to change and therefore checking with the various government agencies is mandatory prior to any activity which will involve a foreign person, entity or country. Contacting the Export Control Office is recommend before entering into any discussions with respect to end-use and end-user.

34. What export control support is available to the faculty, staff and student at RPI?

The Rensselaer Export Control Office of the General Counsel Office was instituted to respond to compliance questions and concerns, and guide PIs, faculty, staff and students through the complex set of export control regulations.

35. Doing basic research that includes field work to be done overseas, does that research qualify under the Fundamental Research Exclusion?

To qualify as Fundamental Research Exclusion, research must be based at an accredited institution of higher education located in the United States. If your research includes work done outside the U.S., it may not qualify for the Fundamental Research Exclusion. This does not automatically mean that export licenses will be required, but it does mean that an export control determination needs to be done before the work begins. Contact exportcontrol@rpi.edu for help in determining your license requirements.

36. Where and how can I get export control training at RPI?

a. The CITI export control training program is available to all Rensselaer personnel engaged in any collaboration, financial exchange or technology transfer or release to a foreign person, entity or country. [http://www.CITIprogram.org](http://www.CITIprogram.org). The CITI export control training program is strongly recommended for all on campus, as it will provide an overview of these complex regulations. Greater detail as to compliance issues are encouraged by contacting the Rensselaer Export Control Office exportcontrol@rpi.edu, before getting involved in an unintentional compliance violation.

b. The Export Control Office is also available for one-on-one or department training sessions. It is recommended that these request be coordinated through the department and establish a schedule for periodic review. Through the Provost’s Department Chairs and Heads meeting, export control issue and regulations change are provided for distribution within the respective organizations. It is strongly recommended for all on campus, as it will provide an overview of these complex regulations, and encourage asking of questions of the Rensselaer Export Control Office before getting involved in an unintentional compliance violation.