

Yale University

DOROTHY K. ROBINSON
Vice President and General Counsel
P.O. Box 208255
New Haven, Connecticut 06520-8255

Telephone: 203 432-4949
Fax: 203 432-7960

To: Members of the Faculty, Senior Research Staff,
Departmental Administrators, and Business Managers

From: Dorothy K. Robinson
Vice President and General Counsel

Re: **U.S. Export Control Regulations**

It is important that all faculty members and senior staff engaged in research, or research administration be aware of the potential applicability of federal laws and regulations on export controls, and recognize the circumstances in which export licenses may be required. Situations requiring further analysis and action should be referred to either the relevant Grant and Contract Office or to my Office. The rules are highly complex, but the penalties for noncompliance are very serious. Because the rules change frequently and are subject to agency interpretation, this memorandum can provide only general guidance.

Regulations. There are three primary sets of federal regulations, under three different federal agencies, that govern export controls. The **Export Administration Regulations (EAR)**, administered by the Commerce Department, apply to the export of “dual-use” items and their technology (i.e., items that have both commercial and military applications, such as computers or pathogens). The **International Traffic in Arms Regulations (ITAR)**, administered by the State Department, apply to munitions, or defense articles and defense services (i.e., those articles and services that are specifically designed for military applications or defense and do not have predominant civil applications). The **Office of Foreign Assets Control (OFAC)**, overseen by the Treasury Department, governs trade sanctions, embargoes, and travel restrictions.¹

These regulations cover exports in virtually all fields of science, technology and engineering. Unless an exemption applies, EAR and ITAR may require that a license be obtained before covered equipment, materials, technology, software or information can be exported. Generally, an “export” includes any: (1) actual shipment, or electronic or digital transmission, of covered items or technology; (2) release or disclosure, including verbally, of covered technology, software or equipment to a foreign national anywhere; or (3) use or application of covered technology for the benefit of a foreign entity or person anywhere. “Export” means not only the shipment of items or transmission of technology outside the United States, but also transmissions to a non-U.S. citizen, non-permanent resident within the

¹ Other regulations apply to highly specialized exports, such as the Energy Department and Nuclear Regulatory Commission regulations on export of nuclear technology, Food and Drug Administration or Environmental Protection Agency export regulations, etc.

United States (called a “deemed export”). Thus, a disclosure to a foreign researcher or student on the Yale campus is a “deemed export.”

The vast majority of exports associated with academic research – including deemed exports – do not require government export licenses because an exemption applies. In other situations, however, a license may be required. In a few situations, a license may be denied.

Exemptions. Most research at Yale will be exempt from EAR and ITAR under one of three key exclusions:

- (1) it involves information that is “**publicly available**” (EAR) or that is in the “**public domain**” (ITAR);
- (2) it involves “**fundamental research**” (so long as there are no restrictions on publication of the research or other restrictions on the dissemination of the information); or
- (3) it involves “**educational information**” (i.e., information released by instruction in catalog courses and associated teaching laboratories at academic institutions in the United States, other than for certain encrypted software).

The EAR and ITAR define “publicly available” or “public domain” information differently. For the EAR, the requirement is that the information has been, is about to be, or is ordinarily published. Under ITAR the information must have been published. Information becomes “published” or considered as “ordinarily published” when it is generally accessible to the interested public through a variety of ways, including publication in periodicals, books, print, electronic or other media available for general distribution to any member of the public. The EAR definition of publicly available includes releases at open conferences, meetings, or seminars in the U.S. or abroad, while ITAR’s definition of “in the public domain” restricts the exemption to releases at U.S. conferences. Certain encryption software is not considered publicly available under EAR.

EAR and ITAR both define “**fundamental research**,” which generally provides an exemption from the need to obtain a license, as basic and applied research in science and engineering conducted at a university located in the U.S., where the resulting information is ordinarily published and shared broadly within the scientific community (excluding certain encryption software). Thus, the fundamental research exemption applies to research conducted by foreign nationals at United States campuses, but does not apply to research conducted abroad. Research will not qualify as fundamental, and a license may be required, if:

- specific access or dissemination controls on the resulting information have been accepted by the university or the researcher; or
- the university or researcher accepts “pass through” export control requirements from a sponsor or restrictions on publication of the information resulting from the research, other than (i) prepublication review designed solely to ensure that publication would not inadvertently divulge proprietary information (EAR) or (ii) prepublication review designed solely to ensure that publication would not compromise patent rights (EAR).

University research under a U.S. government grant that imposes specific national security controls still qualifies as fundamental research under EAR (not ITAR), if, and only if, the university strictly complies with the controls (which may, as a practical matter be impossible, or inconsistent with University policy). An initial transfer of information from an industry sponsor to university researchers may be subject to export controls even if the university research using it qualifies for the fundamental research exemption.

Information that is published and is therefore not subject to the EAR and ITAR may be exported freely, even to countries that are the subject of embargoes under OFAC (but OFAC travel restrictions may apply). However, there are separate restrictions on the provision of services to countries that are embargoed under OFAC and for the provision of services related to defense articles and technology under ITAR.

If the exemptions for publicly available/public domain information and fundamental research do not apply, and information or equipment is to be exported to foreign nationals in the U.S. or transferred abroad, then EAR or ITAR may apply, and a license may be required. An EAR license may be required if:

- an item on the EAR Commerce Control List (CCL), or information concerning a listed item, is to be exported; or
- the information or equipment is subject to EAR but not on the CCL and:
 - the destination is a country with restricted entities on the EAR Entity List (currently, certain entities in China, India, Israel, Pakistan, or Russia);
 - the end user is on the Denied Persons or Specially Designated Nationals Lists;
 - the destination is an OFAC-embargoed country (currently Cuba, Iran, Liberia, Libya, North Korea, Burma (Myanmar), Sudan, or Zimbabwe, and under some circumstances, Iraq and Syria);²
 - the destination is another U.S.-embargoed country (i.e., Rwanda); or
 - the export will support a nuclear, missile, chemical or biological weapons program.

If the destination is an OFAC-embargoed country, an OFAC license also may be required.

An ITAR license generally will be required if: (1) an item on the U.S. Munitions List, or information concerning a listed item, is to be exported; (2) services associated with defense articles and related technical data, even if all of the information is in the public domain, are provided to foreign persons in the design, development, operation, etc. of defense articles (including civilian space/satellite items); (3) there is reason to know that the equipment or information to be exported will be used in weapons of mass destruction; or (4) the equipment or information was designed or modified for military use.³

² Separate restrictions apply to former embargoed destinations.

³ You generally will not be able to get a license if the destination is one of the following countries (or the recipient is a national of one of them): Afghanistan, Belarus, Burma, China, Cuba, Haiti, Iran, Iraq, Liberia, Libya, North Korea, Rwanda, Somalia, Sudan, Syria, Vietnam, or Zaire (Democratic Republic of the Congo). (Note that licenses are sometimes available on a case-by-case basis for support of the operations of the U.S. or its allies in countries such as Afghanistan, Iraq and Zaire (Democratic Republic of the

Penalties for failing to comply with export control regulations can be steep. Criminal violations of EAR carry potential penalties of the greater of \$50,000-\$1,000,000 or five times the value of the export, as well as up to 10 years' imprisonment; civil penalties include fines of \$10,000-\$120,000. Criminal violations of ITAR can entail fines of up to \$1,000,000 and up to 10 years' imprisonment; civil penalties include fines of up to \$500,000. Criminal violations of OFAC regulations are also severe.

In order to assist you in recognizing situations that should be carefully reviewed to determine whether export controls apply, we have designed an Export Controls Review Checklist, a copy of which is available on the web site. **If, upon using the checklist, you identify a situation requiring further review, or you believe an export license may be required, please contact either your Grant and Contract Office or the Office of General Counsel (2-4949 or by e-mail).**

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Congo).) If the destination is any other country, whether you get a license is determined on a case-by-case basis.

EXAMPLES

The following are examples of situations in which an export control license may be required:

1. A Middle East researcher takes a GPS device using phase shift key modulation on a field trip to Syria.

The EAR “publicly available” exemption applies only to information, not to equipment such as the GPS device. The EAR “fundamental research” exemption does not apply because the research is to be conducted abroad. GPS devices using phase shift key modulation are listed on the EAR CCL, and there is no applicable license exception.

2. A computer scientist is working on encryption strategies with a graduate student who is a Pakistani national and is not a permanent resident of the United States.

Some types of encryption software may not be considered publicly available under EAR, and their development may not be considered fundamental research under either EAR or ITAR. Sharing related information with the graduate student may amount to a “deemed export” of that information.

*3. A plant biologist working on genetic control of plant development receives funding from a corporate sponsor who exercises substantive prepublication review. The biologist sends samples of *puccinia striiformis* to colleagues in Canada for analysis.*

The “publicly available” exemption applies only to information, not to physical objects such as the samples. The “fundamental research” exemption does not apply because of the sponsor’s prepublication review. *Puccinia striiformis*, along with several other plant pathogens, is listed on the EAR CCL, and there is no applicable license exception.