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Export Controls and Universities: Information and Case Studies

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COUNCIL ON GOVERNMENTAL RELATIONS

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COUNCIL ON GOVERNMENTAL RELATIONS

The Council on Governmental Relations (COGR) is an association of leading research-intensive universities. COGR's primary function consists in helping to develop policies and practices that fairly reflect the mutual interests and separate obligations of federal agencies and universities in federal research and training. COGR deals primarily with policies and technical issues involved in the administration of federally-sponsored programs at universities. It keeps under continuing review the problems potentially inherent in the development of federal policies, regulations, and other federal initiatives.

This brochure attempts to provide relevant information about export controls and how they affect the academic research enterprise. It does not claim to be a manual of university research administration, nor does it offer model policies. This brochure should not be taken as formal legal advice, and COGR cannot and does not warrant the legal sufficiency of the answers to the questions discussed in the brochure.

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I. INTRODUCTION

Federal laws restricting exports of goods and technology have been in existence in one form or another since the 1940s. Currently they are implemented by the U.S. Department of Commerce through its Export Administration Regulations (EAR—trade protection), the U.S. Department of State through its International Traffic in Arms Regulations (ITAR—national security), and the U.S. Department of Treasury through its Office of Foreign Assets Control (OFAC—trade embargoes).[1]

The export control laws and regulations have several purposes: to restrict exports of goods and technology that could contribute to the military potential of U.S. international adversaries; to prevent proliferation of weapons of mass destruction; to advance U.S. foreign policy goals; and to protect the U.S. economy and promote trade goals. Attention to export controls has increased due to recent heightened concerns about national and homeland security as well as the need to prevent proliferation of weapons of mass destruction and terrorism and leaks of technology to U.S. economic competitors.

Export controls present unique challenges to universities and colleges because they require balancing concerns about national security and U.S. economic vitality with traditional concepts of unrestricted academic freedom and publication and dissemination of research findings and results. University researchers and administrators need to be aware that these laws may apply to research, whether sponsored or not. However, it also is important to understand the extent to which the regulations do not affect normal university activities.

The EAR and ITAR apply to the transfer of specific physical items and information and the provision of specific services to persons and entities outside the United States ("exports") and to the disclosure of specific information and the provision of specific types of services to foreign nationals *inside* the United States ("deemed exports"). When the activities of institutions of higher education involve the export of those specified things, information, or services outside the United States and the disclosure or transmission of those specified things, information, or services to foreign nationals inside the United States, the activities become subject to export control laws and regulations. In some instances, those regulations will require that the university or college obtain a special license from the Commerce, State, or Treasury Department. Violations of these regulations may result in criminal penalties (including fines and/or prison sentences for individuals) and civil sanctions, and may affect future research opportunities.

Although the export control regulations cover virtually all fields of science and engineering, universities and colleges do not need to obtain a license to transfer scientific, technical, or engineering information to their foreign national students and faculty members. Both the EAR and ITAR provide that no license is needed to disclose technical information to foreign nationals inside the United States in classes or laboratories, at conferences or in publications, if the information is in the public domain. Information is in the public domain if, in part, it is published and generally accessible to the public through unlimited and unrestricted distribution,

[1]This brochure focuses primarily on the EAR and ITAR, since these are the regulations most frequently encountered by universities. OFAC issues do, however, occasionally arise in university activities. See Part III for more information.

or through "fundamental research in science and engineering at accredited institutions of higher learning in the U.S. where the resulting information is ordinarily published and shared broadly in the scientific community" (EAR 734.8; ITAR 120.11(8)). This "fundamental research" exclusion[2] applies for basic and applied research in science and engineering performed by colleges and universities so long as that research is carried out openly and without restrictions on publication or access to or dissemination of the research results. It applies essentially to "deemed exports" (transfers of information to foreign persons on U.S. soil). The EAR and ITAR contain a second critical exemption—the teaching exemption—that authorizes the disclosure of educational information released by instruction in catalog courses or general scientific, mathematical, or engineering principles commonly taught in colleges and universities without a license from the Department of Commerce or State (EAR 734.9:ITAR 120.10(5). The ITAR contains an additional "university exemption" for the export by universities of scientific, research, or experimental satellite components that are fabricated for fundamental research purposes (ITAR 123.16(b)(10)). However, special conditions apply to the use of this exemption.

The fundamental research and public domain exemptions apply only to disclosure to foreigners in the U.S. of information or technical data. They do not apply to actual shipment outside our borders of things (physical items including, for example, specified scientific equipment) or services (e.g., training foreign nationals inside or outside the United States). Other exemptions may apply to exports of equipment and services but not the fundamental research or public domain exemptions.

To the extent the disclosure of information falls within the "safe harbor" of the fundamental research, public domain, or other regulatory exemption that applies, university faculty, students, and researchers need not be concerned about export control issues on campus. However, vigilance is required to ensure that the availability of the fundamental research and other exemptions are not lost due to inadvertent acceptance of contractually imposed restrictions on access to, dissemination of, or participation in research. To the extent the activities of universities involve shipping equipment abroad or teaching or training foreign students on campus or foreign colleagues abroad how to use equipment, export control issues do arise.

[2] The equivalent term in the EAR is "exemption."

II. PURPOSE

The purpose of this brochure is to provide some basic information to help faculty, academic officers, and university administrators to identify how and when export control issues may arise and how to ensure that the fundamental research and public domain exemptions exist to protect the open transfer and sharing of information in and outside the United States with students, colleagues, and others who are foreign nationals. The brochure provides an overview of the EAR and ITAR regulations, lists key terms and compares significant differences between the two sets of regulations for university purposes. Case studies then are presented and discussed that are representative of the export control issues encountered by research universities. The case studies propose a set of questions to ask to assess whether the EAR or ITAR apply, identify the issues, seek to apply the regulations to the scenarios presented, and discuss possible choices of action and their possible impact. The brochure concludes with some suggested best practices with regard to export control compliance for research institutions. Frequently Asked Questions that may be useful in summarizing and expanding the material presented in the brochure and additional Resources on export controls are set forth in Appendices.

This document is not and should not be used as formal legal advice. Moreover, COGR cannot and does not warrant that the suggested approaches discussed in the case studies are necessarily correct legal interpretations or the only interpretations of the export control regulations as applied to the facts presented in the case studies.

III. OVERVIEW

A. Concepts

There are several important concepts that need to be understood with regard to export controls. One is that they cover:

(1) Transfers of controlled information, including technical data, to persons and entities outside the United States;

(2) Shipment of controlled physical items, such as scientific equipment, that require export licenses from the U.S. to a foreign country; and

(3) Verbal, written, electronic, and/or visual disclosures of controlled scientific and technical information related to export controlled items to foreign nationals ("deemed exports") in the United States.

A second important concept is that with regard to university research, both the EAR and the ITAR generally incorporate the definition of fundamental research found in National Security Decision Directive (NSDD) 189, originally issued in 1985 and reaffirmed as official government policy in 2001. According to NSDD 189, "fundamental research means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons." It is important to recognize that, while NSDD 189 provides a useful statement of the intent behind the fundamental research exemption in the regulations, the definitions as stated in the regulations themselves govern exports.

To be eligible to be characterized as fundamental research, a university or college needs to be carrying out openly-conducted basic or applied research in science or engineering, the results of which will be shared with the interested scientific community (i.e., no sponsor has placed any publication restrictions on the work). Both the EAR and the ITAR provide that the fundamental research exemption will be lost for any research project where a university or its researchers accept restrictions on the publication of the research findings, whether imposed by the government or a private sponsor.

When the fundamental research exemption applies, research may be conducted with the participation of foreign nationals, and research information and results may be disseminated inside or outside the United States without the need to obtain a license from either the Department of Commerce or the Department of State.

B. Questions To Ask

Before accepting a research award, an institution should ask itself a few basic questions to determine if it must obtain a license from the Commerce or State Department as a condition of conducting the research.

1. Does the award contain any terms or conditions that would restrict the disclosure or dissemination of the research results?
2. Are there any restrictions on access to or dissemination of information the sponsor or others will furnish for use on this project?
3. If the answer to 1 or 2 is yes, does the research project fall under one of the export-controlled technologies?
4. Does this project involve training specific personnel for a special purpose? If so, could it be considered a defense service? If yes, how can you proceed?
5. Will the university need to apply for an export license?

The Case Studies in Part VI discuss these questions and apply them to a number of scenarios that may face universities.

Because both federal government and commercial sponsors of university research have increasingly inserted export control-related clauses (prepublication approval, citizenship requirements, nondisclosure restrictions) in agreements, whether the law makes them applicable or not, all research has to be reviewed to make sure that the "public domain" aspect of the work is unimpaired, as that is the key to it being "fundamental research." Are there restrictions that will limit who can do or see the research? If so, it likely is not "fundamental" and the full panoply of export controls may apply. If it is not fundamental research and foreign nationals will be involved, not only will the government export licensing requirements become applicable but the government licensing entity may determine that foreign involvement is prohibited.

C. Key Points to Recognize

- The vast majority of exports do not require government licenses. Only exports that are controlled under the EAR (dual use items) or the ITAR (munitions) require licenses. (Note that even some items that are controlled under the EAR or ITAR may not require a license for export to certain countries or recipients.)
- The fundamental research exemption will apply to many items on the EAR or ITAR so that a foreign researcher can view the technology or equipment which would otherwise trigger a review of the licensing requirements under the "deemed export" rule *as long as there are <u>no</u> restrictions on publication of the research, dissemination of information, access to the research, or, in some cases, as long as the research or information is made public or is intended to be made public*.
- When an item or technical data about an item is controlled under the EAR or ITAR, a license may be required before either the item or the technology can be exported.

  The term "export" means technology and information leaving the shores of the United States.

  The term "export" also means transmitting the technology or information within the United States to an individual other than a U.S. citizen or permanent resident (the previously discussed "deemed export").

- There are certain countries where it is the policy of the United States generally to deny licenses for the transfer of these items. The EAR "Embargoed Country List" may be found at http://w3.access.gpo.gov/bis/ear/pdf/746.pdf. Prohibited countries where it is U.S. policy to deny licenses for exports of defense articles and defense services are listed in Section 126.1 of the ITAR (http://www.access.gpo.gov/nara/cfr/waisidx_02/22cfr126_02.html). Information about U.S. trade embargoes is presented below.

D. Office of Foreign Assets Control

The Treasury Department Office of Foreign Assets Control (OFAC) administers and enforces economic and trade sanctions and, based on U.S. foreign policy and national security goals, targets foreign countries, terrorists, international narcotics traffickers, and those engaged in activities related to the proliferation of weapons of mass destruction. It has authority under Presidential wartime and national emergency powers, specific legislation, and United Nations and other international mandates, to impose controls on transactions and exports from the United States or by U.S. persons to specific foreign persons, countries, and entities and also to freeze foreign assets that are under the jurisdiction of the United States. (The embargoed countries frequently are referred to as the "T-7s").

While universities typically encounter OFAC issues far less frequently than those arising under the other export control regulations, occasionally OFAC sanctions may impact university activities. For example, in October 2003, the Treasury Department issued an advisory opinion indicating that publication activities, including websites that provide even the most minimal assistance to their users, may be forced to exclude users from OFAC-embargoed ("T-7") countries. (The issue arose in the context of a U.S. engineering journal providing editing services on articles submitted by authors from embargoed countries.) A U.S. university also recently was sanctioned by OFAC for providing funding to a nonprofit foundation in an embargoed country for collaborative activities. As a final check before exporting research articles or engaging in foreign collaborations involving the support of foreign nationals overseas, universities should check the OFAC's list of embargoed entities and persons to determine whether any controls exist on exports to the intended recipient(s). For further information, see http://www.treas.gov/offices/eotffc/ofac.

IV. KEY TERMS

Export control regulations are lengthy and not easy to interpret. The definitions of many key terms are vague and subject to a variety of interpretations. As a result, different institutions may adopt different interpretations and different approaches to analyzing a particular situation, the risks involved, and the applicability of the fundamental research exemption. Nonetheless, what follows are summaries of the definitions of a number of key terms under the EAR and ITAR. These terms are used repeatedly throughout the rest of this brochure, and it may be useful to refer back to them. The official regulatory definition should be consulted in specific applications.

A. The term "export" is not defined identically in the EAR and ITAR. Common elements of the definition include: (1) actual shipment of any covered goods or items outside the United States; and (2) release or disclosure, including verbal disclosures or visual inspections, of any covered technology, software, or technical data to any foreign national whether in the U.S. or abroad. The EAR definition is set forth in 15 CFR 734.2. The ITAR definition is set forth in 22 CFR 120.17. The ITAR also includes in its definition of export the performance of a defense service on behalf of, or for the benefit of, a foreign person, whether in the U.S. or abroad (22 CFR 120.17(5)). The official definition of export under the EAR and ITAR should be consulted when determining whether a specific act constitutes an export.

B. The Export Administration Regulations (EAR), Title 15, sections 730-774 of the Code of Federal Regulations (CFR), means the regulations promulgated and implemented by the Department of Commerce that regulate the export of goods and related technology identified on the Commodity Control List (CCL), Title 15 CFR 774, Supp. 1. Goods and technology on the CCL are *not* inherently military in nature; they are primarily and inherently commercial or potentially commercial in nature. The complete texts of the EAR and CCL are available online at http://w3.access.gpo.gov/bis/ear/ear_data.html. An overview of steps for using the EAR is at http://w3.access.gpo.gov/bis/ear/pdf/732.pdf.

The Bureau of Industry and Security (BIS) in Commerce is responsible for licensing. The CCL categorizes the goods and related technology it covers into ten topical categories and one "catch-all category." The categories follow:

0—Nuclear Materials, Facilities and Equipment, and Miscellaneous
1—Materials, Chemicals, Microorganisms, and Toxins
2—Materials Processing
3—Electronics
4—Computers
5—Telecommunications and Information Security
6—Lasers and Sensors
7—Navigation and Avionics
8—Marine
9—Propulsion Systems, Space Vehicles, and Related Equipment

Each of these categories is subdivided into lists of specific items. Within each category items are arranged into five groups (e.g., Group A covers Equipment, Assemblies, and Components) which then are further subdivided (e.g., 6A002 Optical Sensors includes five subcategories such as 6A002a.2.a. image intensifier tubes having a set of specified characteristics).

In the EAR regulations, there is a "catch-all" category of coverage known as "EAR 99." Any good or technology subject to the EAR that does not fall under one of the ten specific CCL categories falls into EAR 99. Licenses are not required for goods or technologies in this category except in limited circumstances, such as for exports to certain countries or individuals to whom exports are embargoed. The list of end users who are defined as "denied persons" is available at http://www.bis.doc.gov/DPL/Default.shtm. It is advisable for a university to check both this list and the OFAC embargoed list before exporting any research articles or services.

C. The International Traffic in Arms Regulations (ITAR), 22 CFR §§ 120-130, means the regulations promulgated and implemented by the Department of State that control the export of articles, services, and related technical data that are *inherently* military in nature, as determined by the State Department. These "defense articles," "defense services," and related "technical data" are listed on the Munitions List (USML), 22 CFR § 121. Even some articles and technologies that are not readily identifiable as inherently military in nature—for example, research satellites—are included on the USML. A current version of the USML may be found at: http://www.fas.org/spp/starwars/offdocs/itar/p121.htm#P121.8.

The U.S. Munitions List (USML) is divided into twenty-one categories. The categories vary in their breadth of coverage. Some are fairly specific (e.g., Category XV Spacecraft Systems and Associated Equipment is subdivided into a number of specific technologies such as Global Positioning System (GPS) receiving equipment specifically designed, modified, or configured for military use; or GPS receiving equipment with any of a number of defined characteristics). In general, however, the USML lacks the specificity of the CCL.

D. Defense Article (ITAR 120.6) means any item designated in the USML. Examples include specified chemical agents, cameras designated for military purposes, specified lasers, and GPS equipment as noted above. It also means any technical data recorded or stored in any physical form, models, mock-ups, or other items that reveal technical data directly relating to the particular item or "defense article" listed in the USML.

E. Defense Service (ITAR 120. 9) means the furnishing of assistance (including training) anywhere (inside the United States or abroad) to foreign nationals in connection with the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing, or use of defense articles, and the furnishing of any controlled "technical data" (see definition below) to

foreign nationals anywhere.

F. Commodity Jurisdiction Ruling means a request that can be made of the State Department Directorate of Defense Trade Controls for its determination whether a thing, service, or information falls under the EAR and the Commerce Department or the ITAR and the State Department.

G. Fundamental Research (EAR and ITAR) means basic or applied research in science and engineering performed or conducted at an accredited institution of higher learning in the United States where the resulting information is ordinarily published and shared broadly in the scientific community. Fundamental research is distinguished from research that results in information that is restricted for proprietary reasons or national security reasons (EAR) or pursuant to specific U.S. government access and dissemination controls (ITAR).

The EAR provides that university research normally will be considered as fundamental research unless the university or its researchers accept sponsor restrictions on publication of scientific and technical information resulting from the project or activity. The EAR specifically permits limited prepublication reviews by research sponsors to prevent inadvertent divulging of proprietary information provided to the researcher by the sponsor or to insure that publication will not compromise patent rights of the sponsor. The citation for the official definition of fundamental research under the EAR is 15 CFR § 734.8.

The ITAR states that university research will not be deemed to qualify as fundamental research if: (1) the university or its researchers accept any restrictions on publication of scientific and technical information resulting from the project or activity; or (2) the research is federally funded and specific access and dissemination controls protecting information resulting from the research have been accepted by the university or the researcher. The ITAR citation is 22 CFR § 120.11(8).

H. Public Domain (ITAR; 22 CFR § 120.11) means information that is published and that is generally accessible or available to the public: (1) through sales at newsstands and bookstores; (2) through subscriptions which are available without restriction to any individual who desires to obtain or purchase the published information; (3) through second class mailing privileges granted by the U.S. government; (4) at libraries open to the public or from which the public can obtain documents; (5) through patents available at any patent office; (6) through unlimited distribution at a conference, meeting, seminar, trade show, or exhibition, generally accessible to the public, in the United States; (7) through public release (i.e., unlimited distribution) in any form (e.g., not necessarily in published form) after approval by the cognizant U.S. government department or agency; and (8) through fundamental research in science and engineering at accredited institutions of higher learning in the U.S. where the resulting information is ordinarily published and shared broadly in the scientific community. The EAR does not include the term "public domain," but does recognize "publicly available technology and

software" as outside the scope of the EAR (EAR 732.2(b)). The EAR defines information as "published" when it becomes generally accessible to the interested public in any form, including periodicals, books, print, electronic, or other media available for general distribution to the public or a community of persons interested in the subject matter, such as those in a scientific or engineering discipline, either free or at a price that does not exceed the cost of reproduction and distribution. It also includes information readily available at public or university libraries, patents and patent applications, or used at an open conference, meeting, or seminar (EAR 734.7).

l. Technical Data means information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of controlled articles. This includes information in the form of blueprints, drawings, plans, instructions, diagrams, photographs, etc. The ITAR definition does not include information concerning general scientific, mathematical, or engineering principles commonly taught in schools, colleges, and universities, or information in the public domain (ITAR 120.10(5)).

V. COMPARISON OF EAR AND ITAR

There are a number of key differences between the EAR and the ITAR. The EAR is concerned with "dual use" items; ITAR with those that are inherently military in nature. The ITAR contains the concept of "defense services," which includes the furnishing either of training or of technical data related to ITAR-controlled items to foreign persons either in the U.S. or abroad. Another difference is the treatment of fundamental research. In the ITAR, it is subsumed under "public domain." In the EAR, it is a separate and distinct category. In general, the EAR is clearer and more specific in its coverage than the ITAR.

A. Export Administration Regulations

(15 CFR 730-774; http://www.access.gpo.gov/nara/cfr)

The Export Administration Regulations (EAR) cover "dual use" items. The EAR regulates items designed for potentially commercial purposes that can have military applications (computers, pathogens, etc). The EAR covers exports of these commodities to and from the U.S., as well as the transfer of technical data about them to a foreign national, both in and outside the U.S. It also covers the re-export of foreign commodities incorporating controlled U.S. commodities.

Technical data that are governed by the EAR may not be "exported" without first securing a license from the Department of Commerce or qualifying for an exemption. The export of technical data includes: (a) an actual shipment or transmission of data out of the United States; (b) release of technical data in the United States with the knowledge or intent that the data will be shipped or transmitted to a foreign country; and (c) any release of technical data of U.S-origin in a foreign country. The release of technical data is further defined to include "oral exchanges of information in the United States or abroad" (15 CFR. 734.1(b)(3)(ii)). All exports of technical data in this restricted category may require a license prior to export. The license requirements, and countries affected, depend on the applicable category.

No license is required for export of:

(1) Information arising during or resulting from fundamental research.

(2) Data released orally or visually at open conferences, lectures, trade shows, or other media open to the public.

(3) Publications that may be purchased without restrictions at a nominal cost or are readily available at public libraries.

(4) Patents available at any patent office.

(5) Dissemination of educational information by instruction in catalogue courses and associated laboratories in academic institutions.

Fundamental Research Under the EAR

Under the EAR, university-based research conducted by scientists, engineers, or students normally will be considered fundamental research (15 CFR 734.8(b)) and is, therefore, exempt from licensing requirements. University-based research is not considered "fundamental," however, if

the university or its researchers have accepted restrictions on the publication of scientific and technical information resulting from the project or activity other than the usual prepublication review to ensure that publication would not inadvertently divulge proprietary information furnished by the sponsor or compromise patent rights. The exemption also does not apply to the initial transfer of information from an industry sponsor to university researchers where the parties have agreed that the results become the sponsor's proprietary information (See 15 CFR 734.8(b)(2) and (5)). Access and dissemination controls in government contracts normally also do not trigger a license requirement as long as the university otherwise follows any national security controls imposed in the contract (15 CFR 734.11(a)). The EAR exemptions for fundamental university research are broader than under the ITAR.

The EAR includes a helpful set of "Q's and A's" relating to technology and software that is subject to the EAR (Supplement 1 to Part 734). It provides illustrative guidance in interpreting the scope of the EAR licensing requirements. The Q's and A's include guidance on publications, conferences, educational instruction, research, federal contract controls, consulting and other matters and can be found at: http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/cfr_2003/15cfr734.12.htm. They are also included in the export control materials on the COGR website. The ITAR does not contain similar guidance.

B. International Traffic in Arms Regulations

(22 CFR 120-130; http://www.access.gpo.gov/nara/cfr)

ITAR deals with items that the State Department has "deemed to be inherently military in character." Those items, organized into categories, include equipment, software, algorithms, and in each category, technical data and services directly related to the items specified. All such items are placed on the United States Munitions List (USML). Items that have a dual use—that is, civilian as well as military applications—are governed under EAR.

Although the USML is considerably shorter than the EAR's CCL, some of the items are more broadly defined. A broad USML category that presents a particular problem for the university space research community is *Category XV, Spacecraft Systems and Associated Equipment*. This category includes: (a) Spacecraft, including communications satellites, scientific satellites, research satellites, remote sensing satellites, navigation satellites, experimental and multi-mission satellites; (b) Ground control stations for telemetry, tracking, and control of spacecraft or satellites; and (e) All specifically designed or modified systems, components, parts, accessories, attachments, and associated equipment for the articles in this category. As is the case with each USML category, Category XV ends with "(f) Technical data and defense services directly related to the articles enumerated."

Items listed on the USML and subject to ITAR require a license from the Directorate of Defense Trade Controls at the State Department prior to export unless they fall within a particular exemption under the ITAR. As noted above, the ITAR includes public domain, fundamental research, and teaching exemptions. The following additional exemption (set forth in ITAR 125.4(10)) also is particularly relevant to universities:

"Disclosures of unclassified technical data in the U.S. by U.S. institutions of higher learning to foreign persons who are their bona fide and full time regular employees. This exemption is available only if:

(i) the employee's permanent abode throughout the period of employment is in the United States;

(ii) the employee is not a national of a country to which exports are prohibited pursuant to Section 126.1 (of the ITAR); and

(iii) the institution informs the individual in writing that the technical data may not be transferred to other foreign persons without the prior written approval of the Directorate of Defense Trade Controls."

It should be noted that for most universities, the "bona fide and full time regular employee" element required for the exemption may not include students (who are not typically treated as full time employees) or some postdoctoral researchers (depending on their funding source).

Under the ITAR, any person who engages in the business of either manufacturing or exporting defense articles or furnishing defense services in the United States is required to register with the Directorate of Defense Trade Controls. However, the ITAR exempts from the registration requirement persons (including corporate entities and universities) that engage only in the fabrication of articles for experimental or scientific purpose, including research and development (Section 122.1(b)(4)).

Fundamental Research Under the ITAR

The fundamental research exemption under the ITAR is more limited than under the EAR. There is no specific counterpart in the ITAR to the EAR provisions (15 CFR 734.8(b)(2) and (3)) allowing limited prepublication review by a research sponsor, although, in practice, most universities presume such review is allowable under the ITAR. The ITAR excludes from the definition of fundamental research information restricted for proprietary reasons (22 CFR 120.11(8)). The ITAR also provides that university research will not be considered fundamental research if the university or its researchers accept other restrictions on the publication of scientific and technical information resulting from the project or activity, or the research is funded by the U.S. government and specific access and dissemination controls protecting information resulting from the research are applicable (22 CRF 120.11(8)(i) and (ii)). Also, the ITAR contains language that implies that the provision to a foreign national of even public domain information may be considered a defense service that requires a license under the ITAR (22 CFR 124.1(a)).

In response to concerns expressed by universities about university-based space research involving satellites and the relationship to the ITAR, in March of 2002, the U.S. State Department attempted to clarify the exemption of U.S. universities from obtaining ITAR licenses for such research. It published an amendment to the ITAR covering the fabrication of scientific, research, or experimental satellites for fundamental research purposes and the transfer of technical data related to such articles (Fed. Reg. Vol. 67, No. 61, March 29, 2002, pp. 15099-15101. In so doing, the State Department reiterated that it does not control or regulate "fundamental research." It also indicated that the 1999 transfer of commercial communications satellites from the CCL to the USML did not change this policy and did not affect the longstanding ITAR jurisdiction over

research, experimental and scientific satellites. The amendment clarified that the fundamental research exemption allows accredited U.S. institutions of higher education to export such articles as long as all of the information about the articles is in the public domain, and the export is made only to certain universities and research centers in countries that are members of the North Atlantic Treaty Organization (NATO), the European Union, the European Space Agency, or to major non-NATO allies, such as Japan and Israel. The amendment also clarified that the exemption allows universities to provide defense services related to the assembly and integration of articles into scientific, research or experimental satellites when working with the same set of countries. A license is still required for export of exempted information (including discussions) and hardware to researchers from all other countries. In addition, collaborators in approved countries are required to guarantee that researchers from non-approved countries are not receiving restricted information.

While universities welcomed the intent of the clarification, some of the details in the clarification potentially conflict with other sections of the ITAR and present implementation difficulties (see Comments on ITAR Amendments included in the export control materials on the COGR website). In particular, insofar as information in the public domain is already exempted, limiting the export of information about the articles to public domain information is not an expansion of existing authority. The requirement for a license to export exempted information beyond the specified set of countries seems to directly conflict with NSDD 189, the ITAR provisions on fundamental research and public domain. The result of the "clarification" appears to impose special conditions upon university research with regard to satellites and space-based research beyond that otherwise provided in the ITAR. It also does not address the ITAR's ambiguous treatment of fundamental research and public domain information. Given this ambiguity, and because of the severe sanctions for export control violations,[3] some universities are erring on the side of caution and applying for licenses for any export of technology or information related to satellite research.

[3]The penalty for unlawful export of items or information controlled under the ITAR is up to two years imprisonment, or a fine of $100,000, or both. The penalty for unlawful export of items or information controlled under the EAR is a fine of up to $1,000,000, or five times the value of the exports, whichever is greater; or for an individual, imprisonment of up to ten years or a fine of up to $250,000, or both.

VI. CASE STUDIES

In analyzing the scenarios in the following cases, the following questions should guide the analysis:

Q1. Does the award contain any terms or conditions that would restrict the disclosure of dissemination of the research results?

Q2. Are there any restrictions on access to or dissemination of information the sponsor or others will furnish for this project?

Q3. If the answer to 1 or 2 is yes, does the research project fall under one of the export-controlled technologies?

Q4. Does this project involve training specific personnel for a special purpose? If so, could it be considered a defense service? If yes, how can you proceed?

Q5. Will the university need to apply for an export license?

While the analysis and comments that follow the scenarios below do not specifically follow this format, these questions have been considered in analyzing each case.

Case #1 (Publication)

Scenario

Your Principal Investigator (PI) is doing basic research in the field of remote sensing. Your institution receives a research contract from the Department of Defense (DOD) as well as a subcontract from another university in support of this work. Both agreements incorporate the following clause:

> *DFARS 252.204-7000 Disclosure of Information.*
>
> *As prescribed in 204.404-70(a), use the following clause:*
>
> *DISCLOSURE OF INFORMATION (DEC 1991)*
>
> *(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless—*
>
> *(1) The Contracting Officer has given prior written approval; or*
>
> *(2) The information is otherwise in the public domain before the date of release.*
>
> *(b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.*
>
> *(c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.*
>
> *(End of clause)*
>
> *[DAC 91-2, 57 FR 14996, 4/23/92, effective 4/16/92]*

Analysis and Comments

This clause could restrict publications. There is no reference to receiving restricted information. The research to be performed falls under ITAR Category XV. The project does not involve providing a defense service, because it is a fundamental research project. If the restrictive publication clause is not modified, a license from the State Department would be required to publish the technical data, unless specifically approved by the DOD.

The publication clause seeks to control any and all **unclassified information**, *regardless of medium*, that the government believes may be sensitive and inappropriate for release to the public. If accepted without substantive changes, the research your PI is conducting would no longer qualify as fundamental research and would therefore not fall under the exemption afforded

under export control laws. If this clause is accepted as is, any transmission of the data (oral, written, or visual representation) generated by the project or the final results to any foreign national will be a deemed export and may very well require a license from the State Department before making a disclosure. If this clause is accepted as is, the PI will have to get prior approval to publish an article. Although a license would not then be required to publish that particular article in open publication, all other disclosures of technical data would still be restricted. In short, this clause should not be accepted.

In negotiating modifications to the clause you may point out that the clause does not comply with National Security Decision Directive (NSDD) 189 or the Federal Acquisition Regulations (FAR) data rights clauses for universities and colleges. NSDD 189 states, as a matter of federal policy, that papers or other publications resulting from unclassified contracted fundamental research are exempt from the prepublication controls. NSDD further states that when national security requires controls on publication, the mechanism that must be used to restrict the dissemination of information generated during federally-funded fundamental research in science, technology, and engineering at colleges, universities, and laboratories is classification. In other words, NSDD 189 stands for the proposition that **no restrictions may be placed upon the conduct or reporting of federally-funded fundamental research that has not received national security classification, except as provided in applicable U.S. Statutes (NSDD189).**

In negotiating the change, you should also note that NSDD 189 has been codified in the FAR 27.404, Basic Rights in Data Clause. The first sentence of 27.404(g)(2) states:

> *(2) In contracts for basic or applied research with universities or colleges, no restrictions may be placed upon the conduct of or reporting on the results of unclassified basic or applied research, except as provided in applicable U.S. Statutes.*

And in the first sentence of 27.404 (g) (3):

> *(3)* ***Except for the results of basic or applied research under contracts with universities or colleges,*** *agencies may, to the extent provided in their FAR supplements, place limitations or restrictions on the contractor's right to use, release to others, reproduce, distribute, or publish any data first produced in the performance of the contract, including a requirement to assign copyright to the Government or another party, either by adding a subparagraph (d)(3) to the Rights in Data—General clause at 52.227-14, or by express limitations or restrictions in the contract.*

At least one university negotiated the following modification:

> *242-204-7000 Release of Information (Dec 1991) Deviation*
>
> *The contractor shall be free to publish, permit to be published, or distribute for public consumption, any information, oral or written, concerning the results of conclusions made pursuant to performance of this contract; provided,*

however, that it shall provide copies of any such publication or release of information to the government's contracting officer for review and comment at least thirty (30) days prior to any such release.

There are two important elements of any prepublication review clause: (1) establish a precise time limit for the government review, and (2) limit the scope of the review to a review for the inclusion of (a) classified information, in the case of the government, and (b) to the information that could jeopardize patent rights and clearly identified proprietary or confidential information of the sponsors, in the case of private industry (provided none of the proprietary information is marked by industry as export-controlled).

CASE #2 (PUBLICATION)

Scenario

You are reviewing a contract from a federal agency to conduct research on new tools for material processing that includes the following clause:

The Government recognizes that the result of a university research project may be publishable. The Government agrees that the institution's employees engaged in the project shall be permitted to present at symposia and national or regional professional meetings, and to publish in journals, theses, dissertations, or otherwise of their own choosing, the methods and results of the project(s). However, the methods and results of this project, including any designs, equipment, or concepts first produced through this research project, shall be considered as "Administratively Confidential," prior to Government review. Any publication or presentation of any designs, equipment, or concepts based on information resulting from the tasks covered by this contract will be subject to advance review and comment by the Government's Contracting Officer, in consultation with the designated Contracting Officer's Technical Representative (COTR), before publication or dissemination, to determine accuracy of factual data and interpretation, and fair access to results for the program participants.

Analysis and Comment

There are no restrictions on information to be received from the sponsor or others for use on this project, nor does it involve training of specific personnel for a special purpose. This technology is covered by export controls—it falls under EAR Category 2.

In deciding if the award contains any terms or conditions that restrict the disclosure of dissemination of the research results, institutions may reach different conclusions. Some institutions may conclude that the clause does not remove the information from the public domain because the label "administratively confidential" does not constitute a publication restriction once the COTR completes the review and does not give the COTR approval rights. As a result, the fundamental research exclusion is still available and no license would be required.

Other (perhaps more cautious) institutions may conclude the clause does operate as a restriction on the dissemination of or access to information because the COTR has a right to review a proposed publication "to determine accuracy of factual data and interpretation" and "fair access to results." With all work produced (even concepts) categorized as "administratively confidential" and comments addressing even the interpretation of the results, the cautious person would read this as crossing the line. In this case a license would be sought if the clause was accepted.

In any event, this is an ill-conceived second paragraph. Regardless of export control issues, most institutions would see this as imposing possibly unacceptable restrictions on the researcher's ability to disseminate research results and would seek to have the language modified whether or not export regulations were invoked. The sentence referring to data and results being "administratively confidential" should be deleted, the review should be limited to review for inclusion of classified or proprietary information, and a time limit for the review should be established (normally 30-60 days).

Case #3 (Publication)

Background

A significant source of export control problems for universities working within the fundamental research exclusion arises when contractors, suppliers, and vendors are needed to build or fabricate an experimental or scientific apparatus. These companies may develop or generate data and technology that belongs to them, that is implicated in the research, and which is indeed export-controlled. These companies may have to obtain a license from State or Commerce before disclosing their data or technology to university researchers because foreign nationals may be involved. Moreover, they may wish to impose restrictions on publications that are so broad they include even university-generated information, undermining the university's ability to use the "fundamental research" exclusion from deemed export controls. Two scenarios deriving from this situation are treated below:

Scenario (Case Study 3a)

A small company has received SBIR funding from the Army and issued a subcontract to your institution. The Principal Investigator, a professor in your mechanical and aerospace engineering department, will be helping the company develop and fabricate components for ground effect machines (GEMS). The company will need to provide export-controlled data (called "technical data" in the ITAR) in order for your institution to assist with the effort. Neither party expects that the university team will be involved in the manufacturing of the final product to be delivered to the Army by the company. Several of the students and post docs who will be working on the project are foreign nationals, as is the Principal Investigator, who is British. The agreement contains the following clause:

> *H-6 Dissemination of Information*
>
> *a. There shall be no dissemination or publication, except within and between the Contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of the COTR.*

Analysis and Comments

There is a publication approval requirement as an award condition. Because the restriction on publication pertains to "information developed under this contract," it will capture university-generated data that otherwise would be (presumably) in the public domain, in addition to information provided to the university by the company (which has every right to restrict disclosure of its own information, which is not in the public domain to begin with). The sponsor is providing "technical data," a term of art used in the ITAR to indicate information that is subject to ITAR control, to the university research team.

Nominally this is a fundamental research project (despite limited information, it appears to be of intellectual interest to the university, which is in the business of expanding knowledge rather than

in the manufacturing business). However, even if it is fundamental research in terms of being "basic and applied research in science and engineering," it falters on the ground of being subject to disclosure restrictions.

Because of the publication restrictions that will apply to university-generated as well as to company-provided information, the subcontracted work to be undertaken by the university is not eligible for treatment as "fundamental research."

GEMS falls under ITAR Category VIII. The work is not a defense service, as it does not call for training on the final product the company is delivering to the Army.

While it is possible that your faculty may not be directly performing any ITAR related work, the project team will be given access to ITAR data. Accepting this prior approval clause will eliminate the fundamental research exclusion and require the university to obtain licenses for the foreign nationals to work on the project. However, the university should work through the industry partner to have the prime sponsor provide the appropriate publication language that spells out a review process with a specified number of maximum days for review. See Case Study 3b. Ideally your industry collaborator should concur with your institution's request for improved publication language. In cases where the industry sponsor will not support the case, it may be necessary to deal with the federal sponsor directly.

Case #3 (Continued)

Scenario (Case Study 3b)

Assume the same set of facts just described above. However, the clause that is to be used in the subcontract reads as follows:

> *H-6 Dissemination of Information*
>
> *a. There shall be no dissemination or publication, except within and between the Contractor and any subcontractors, of information furnished by the Company pursuant to this contract without prior written approval of the COR. Information that is subject to this clause shall be clearly marked as either proprietary or export-controlled information.*

Analysis and Comment

In this situation, the information generated by the university will not be subject to disclosure restrictions; that is, the university may treat its information as being in the public domain and may disseminate to and among the researchers and others. Because the research involves basic and applied research in science and engineering in the public domain, the project constitutes "fundamental research" and will not be subject to deemed export restrictions.

However, some protection will have to be provided for the company-furnished information that is to be used in development and fabrication of the devices. Assuming the information that the company wishes to keep restricted does not go to the intellectually significant portions of the research, but rather is related to ancillary matters such as widget size and bolt hole placement, it should be possible to enter into nondisclosure agreements about the export-controlled information just as it is possible to enter into such agreements with regard to proprietary information. The difference will be that only "eligible" individuals may receive the information. That is, they must either be citizens or permanent resident aliens (green card holders). Given the nature of the information subject to the restrictions, none of the excluded researchers will be disadvantaged in their academic endeavor by not having access to this information, which means that any openness in research policy of the university will not be violated.

Unfortunately, that is not the end of it. There may be an issue with regard to contractor-furnished information or technology that might be visually accessible to ineligible persons during actual fabrication. It is at this interface stage that the company may determine that it should get a license to disclose the information or technology to foreign researchers. It is the company that has to obtain the export license because it is the company's export-controlled information or technology that will be disclosed.

It is important to negotiate with the company language that will ensure that university-generated information is not made subject to the export regulations by language that is too restrictive. This will protect the university's ability to invoke the fundamental research exclusion. Additionally, it is imperative to get language in the clause placing the burden on the company to clearly mark all

export-controlled (and proprietary) information and technology that it intends to provide to you. The university should not have to guess whether company-provided items or data are export-controlled, and the university cannot have technical data going to the PI who is ineligible to receive the data without a license.

Case #4 (Publication)

Scenario

A research proposal was submitted to a government agency for a study related to a new method of baggage screening at airports for detection of explosives. The resulting agreement contained a requirement that the final report have a legend on the cover restricting dissemination to agencies of the U.S. government. Other publications of the research were not subject to this requirement; the contract specifically stated that the university had no restrictions on publications or any restriction on the use of foreign nationals in the research program.

Analysis and Comment

This clause imposes a restriction on the dissemination of the final report. However, it does not restrict the disclosure of the research results. There are no restrictions on the information to be received by the sponsor.

A determination was made initially by the institution that the technology did not fall under covered technologies in either list. However, outside counsel was requested to confirm this finding, and it was discovered that there is a current disagreement between the Department of State and Department of Commerce regarding responsibility of jurisdiction over explosive detection equipment and related technology. The State Department reads Categories IV(a) and IV(c) to extend their jurisdiction over ALL explosive detection equipment and technology. Despite this position, the Commerce Department issued regulations on April 3, 2003, that it controlled certain explosive detection devices and technology. Outside counsel advised the university to conduct itself as if it were subject to export controls.

This project does not involve training of specific personnel for a special purpose; therefore, no defense service is being provided.

Will the university need to apply for an export license? In this case, the determination was made that, even under the new regulations, a license was not needed under the EAR. A license would be required under the ITAR, but no license was required at this time because there were no foreign nationals that were involved in the project; all researchers were either U.S. citizens or held green cards. In the event that a researcher is brought into the project for which an export license would be required, the university will do so.

Because no foreign nationals are involved, no license is needed. Depending upon the resolution of the conflict between Commerce and State, a license may be required in the future which would, among other things, require segregation of the laboratory, computers, etc.

Although this university decided that the final report dissemination restriction would invoke license requirements under export control laws, there is no universal agreement that a dissemination restriction applied *only* to the final report document destroys the fundamental research exemption. Some take the position that the exemption would still apply since there are no restrictions to the access of project data or on other publications.

Case #5 (Foreign Nationals)

Scenario

Your university receives an Army research contract for work on software designed for military applications. The project team includes several foreign national graduate students, including one from Belarus. The contract contains the following clause:

> *52.004-4400 FOREIGN NATIONALS PERFORMING UNDER CONTRACT (FEB 2002)*
>
> *In accordance with Title 8 U.S.C. 1324a, local Foreign Disclosure Officers (FDOs) may approve access by foreign nationals working on unclassified public domain contracts for the duration of the contract, provided the foreign nationals have appropriate work authorization documentation.*

In those instances where foreign nationals are required to perform under any resultant contract and employment eligibility documentation was not submitted with an Awardee's proposal, the employment eligibility documentation specified at 8 CFR 274a.2 shall be submitted to the Contracting Officer at least two weeks prior to the foreign national's performance for review and approval. Awardees not employing foreign nationals in performance of any resultant contract may disregard this clause.

Analysis and Comments

The award contains a restriction to the project by foreign nationals. There is restricted information received from the sponsor. The work involves ITAR-controlled technology. No training is involved.

Take 1:

The award clearly contains an access control. If the university decides to accept the award with the clause as stated, the fundamental research exclusion will not apply. Most institutions do not have formal written policies covering the participation of foreign nationals in university activities. Often they may have operational policies that forbid or strongly discourage restrictions based on nationality. A further difficulty is that disclosure of employment eligibility documentation to government contracting officers may violate institutional privacy policies. The U.S. code provision cited in the clause only requires employers to make the employment verification form available for inspection by the Immigration and Nationalization Service, and the Department of Labor.

For these reasons many universities may try to negotiate or refuse to accept the language of the clause as written. Often universities may agree to accept language requiring notification of any foreign nationals performing under a government contract. Arguably, a notification requirement does not rise to the level of a specific access control. However, recently the Army has been insisting on the version of the clause as shown above.

Take 2:

This clause does not restrict access to information or publication. However, even if an institution does not have a policy regarding acceptance of agreements with restrictions on participation by foreign nationals, this clause should be negotiated out for the following reasons: (1) the clause does discriminate based on nationality; (2) it conflicts with other U.S. regulations regarding disclosure of eligibility documents; and (3) the clause interferes with the ability of the PI to employ whomever they deem as competent for the project. Since the review is limited to employment eligibility documentation, it may not, in itself, move the project out from under the fundamental research exemption. One could argue that even though the sponsor may be able to deny a foreign national from **working** on this particular project, there are **no restrictions** on the access to or dissemination of the **research results** and, therefore, the project does remain under the fundamental research exemption.

Case #6 (Publications)

Scenario

Your PI's project is being funded by a subcontract from another university who is in turn a subcontractor to a private company being funded by DoD. The research at both institutions involves rotorcraft. The following (lengthy) publication clause is contained in your agreement with the other university:

> *Release of Information*
>
> *The following provision applies for universities under this Contract.*
>
> *The Company's review prior to public release is required for the following, whether unclassified contracts/instruments or classified:*
>
> > *(1) Procurement instruments and solicitations (including grants, cooperative agreements, etc.), abstracts, papers, technical reports, articles, point papers, news releases, short items to be included in other publications, academic papers on workload subject matter, speeches, briefings, media presentations, training materials, munitions cases, environmental impact statements, and other forms of information, including film, audio tapes, and video cassettes which could divulge non-releasable, unclassified information.*
> >
> > *(2) Information posted on electronic bulletin boards, passed over unsecured electronic mail systems, or posted in a manner to the World Wide Web.*
>
> *Each party agrees to confer and consult with each other prior to publication or any other disclosure of information relating to efforts under the contract/instrument. Prior to any publication or disclosure, each will offer the other party ample opportunity to review the proposed publication or disclosure, to submit objections, and to file application letters for patents in a timely manner. The contractor shall allow a minimum of sixty (60) days for completion of this process.*
>
> *Your organization will provide the Company with any public release of information on this contract/instrument by forwarding the material to be released and a transmittal letter identifying the contract/instrument number and the specific information to be released, the medium to be used, the purpose of the release, the cognizant Science Officer, Technical Monitor, or Subcontracting Officer's Representative to the address below…*

Analysis and Comments

This project falls under ITAR Category VIII, Aircraft and Associated Equipment. Training is not involved. Will the institution(s) need to apply for an export control license? The answer is probably not.

A conservative approach would be that the award does contain a potential publication restriction because of the language permitting each party to "submit objections." A fairly aggressive position is that does not contain a publication restriction because specific approval to publish is not required.

This case demonstrates the awkward situation where several layered entities are flowing down a publication clause that is far less than ideal. This clause does not require an out and out approval for publication, but it covers so much territory that there is room for the interpretation that accepting this clause could jeopardize exercising a fundamental research exemption.

Two of the key problem points of this clause are that the sponsor may "submit objections" and that no time frame is stated by which the agency is to have provided comments, if any. What control does "submit objections" give the sponsor, and can publications be held up indefinitely if nothing is heard back?

The argument can be made that even though the term "objections" gives rise to pressure, the clause does not say that the author must revise the publication if an objection is made and, therefore, leaves the final say to the author. The "shall allow a minimum of 60 day for the completion of the process" implies that the 60 day period is the time one must wait until they publish.

It is always good practice and, in the case of clauses affecting export controls even more important, that the first tier university share the flow down clauses with any other universities to be subcontracted to as soon as possible to avoid negotiation delays and problems. In this case, the second tier subcontracting institution felt they could not accept the clause as written as it jeopardized the fundamental research exemption, and did get the following clarification added to this clause:

University X will be free to publish the results of the research after providing the sponsor with a sixty (60) day period in which to review each publication, identify patentable subject matter, and identify any inadvertent disclosure of the sponsor's proprietary information.

All would have been better off if the first tier negotiations had achieved this modification in the prime award, since it would have clarified that an export license is not necessary.

Case #7 (Export of "Things")

Scenario

The university is developing a space science instrument, known as the Far-ultraviolet Imaging Spectrograph (FIMS), that will trace the balance and flow of energy through plasma, with support from NASA and the Republic of Korea. In cooperation with the Korea Astronomy Observatory, supported by the Korea Ministry of Science, the university will fabricate two FIMS instruments, one engineering model and one flight model, for export to the Republic of Korea, where the FIMS will be integrated into a Korean satellite. The Korean satellite will then be launched into earth's orbit on a launch vehicle from Russia.

The university will produce the opto-mechanical and detector accessories, import the electronic accessories fabricated in Korea, and complete the fabrication of the FIMS. Two different FIMS instruments will be fabricated and exported to Korea: a non-functional, laboratory-use FIMS for development and testing (the "Qualification Model") that is not space qualified, and a space-qualified FIMS (the "Flight Model") that will be used for science research on an orbital satellite. The design of the FIMS will be openly shared, including posting of schematic drawings, blue-prints, and other fabrication methods on an open website contributed to by members of the university and Korean teams; the results of the research into the spectroscopy of plasma evolution from astrophysical radiation will also be shared openly and published. The contracts from the government of Korea and NASA for support of the project simply state that the university will comply with all export regulations.

Analysis and Comment

This award contains no terms or conditions which restrict the disclosure or dissemination of the research results, and no restricted information will be received from the sponsor or others for use on this project.

Even though the answer to our basic Questions 1 and 2 is "No," it is still necessary to question whether the research project falls under one of the export-controlled technologies because in this instance there will be shipment of a "thing" outside the United States. Because the project entails fabrication of an instrument that will fly in space, ITAR, Category XV Spacecraft Systems and Associated Equipment covers export of the fabricated instrument.

There is no contractual duty to provide a defense service (training of personnel) to the Korean colleagues. The Korean colleagues are contributing technology to the project in the form of the electronics assembly for the FIMS instruments. Both parties are contributing expertise to the objective of fabricating a scientific instrument.

Even though the project qualifies as fundamental research, and the technical information about the design of the FIMS instruments will be publicly available, and the scientific results will be published and shared openly, the university will need to apply for a number of licenses from the Department of State. A license for the temporary import of the electronic assembly from Korea

will be necessary, using the Department of State Form DSP-61, Application/License for Temporary Import of Unclassified Defense Articles. It is a temporary import because the electronic assembly will be integrated into the FIMS and then exported back to Korea. Further, licenses for export of both the Qualification/test version and the Flight Model of the FIMS must be secured, using the DSP-5, Application/License for Permanent Export of Unclassified Defense Articles and Related Unclassified Technical Data. In this case, one DSP-5 was submitted, covering both the test version and the final, flight-ready FIMS. Because the technical information about the FIMS is publicly available on the project website, no technical data about the FIMS is being exported, so the DSP-5 license application covered merely the shipment of the hardware.

The university submitted both the DSP-61 (temporary import) and the DSP-5 (covering the permanent export of the test version and the final flight instrument) as attachments to a cover letter in mid-April. The DSP-61 was three pages long (the completed form with a two-page description) and was approved by mid-May. The DSP-5 was five pages long (the completed form and a four-page description, including a drawing) and was approved by mid-June.

Some conclusions to be drawn are: the process can be relatively straightforward; one need not hire outside legal counsel to prepare an export license application; a simple description of the item to be exported is sufficient in cases where the project is truly fundamental research; listing a contact person who knows the science aspect of the project (such as the NASA Project Officer) helps get the application processed and approved in a timely manner. It is important to note that the university received approval for the temporary import and permanent exports, even though the application made no mention of NASA support for the project (at the time of the initial applications, it was not known that NASA would eventually decide to fund the project). While the name of a knowledgeable NASA official was listed in the license in Block 6 (Name of U.S. government personnel familiar with the commodity), it seems that such exports are approved even without official government funding of the project.

It should also be noted that at the time of submission and approval of the export licenses, it was not known where the Korean satellite containing the FIMS would be launched. Subsequently, Korea decided to use the launch services of the Russian Plesetsk Space Launch Complex. This meant that the FIMS, approved for export to South Korea, would be shipped by South Korea to Russia for launch. Even though Russia would not be considered an “end user,” the fact was that the FIMS, as part of the satellite, would be on Russian soil for a brief period of time. Rather than securing another export license, or a modification to the already approved license, the university simply sent a letter to the Department of State, seeking permission to transport the FIMS instrument, contained within the South Korean satellite, from South Korea to Russia for the sole purpose of being launched into space. The letter was submitted at the end of March, and approval from the Department of State was received in mid-August.

Case #8 (GPS Technology)

Scenario

Your institution has a federal grant that involves placing low technology GPS equipment along a fault line in the Middle East. You and a collaborating institution are providing the research support, the training, the software programs to run the equipment, and the equipment itself. One of the countries involved in the research is on the "T-7" list. Your researchers visit the site every few months to check the equipment. The software program you use has been shipped for several years to institutions of higher education, not-for-profits, and foreign governments and is available on a restricted website. The restricted website is to ensure that commercial entities don't access and use the equipment for commercial gain.

Analysis and Comment

The disclosure of and dissemination of the research results are restricted because the software ("technical data") is available only on a restricted website. Use of this software is essential for this project.

The project does not involve receipt of restricted information from others.

This project does involve training of specific personnel for a special purpose, and so a defense service is being provided, requiring a Technical Assistance Agreement.
In this case, GPS equipment is listed both in the EAR and in the ITAR of covered technology. However, the EAR refers this category to the State Department licensing authority under Category XV of the ITAR. Thus a license from the State Department clearly is needed for the equipment as well as a Technical Assistance Agreement for training of the foreign nationals.

There are two significant issues here. In all probability the fundamental research exemption is destroyed because of the limitation on access to that software, and a license under the ITAR will be required. The other is the involvement of a "T-7" country and whether a separate license may be required under OFAC. In this situation advice from legal counsel must be sought.

Case # 9 (Deemed Export and Defense Services Issues)

Scenario

A member of your faculty, a member of the Project Management & Management Systems Department in your School of Aeronautics and Astronautics, is going to be visited by colleagues from the University of Ottawa, New Zealand. Your faculty member has done groundbreaking studies and developed techniques, equipment, and processes for facilitating on-time, on-budget satellite-related and space-based research. In town for a conference on these and other developments, the New Zealanders want to see the actual site where the research is performed. Among those visiting are UO faculty who were born in North Korea, China (Taiwan), and Syria. Would this collegial visit constitute an export (or be a deemed export) as defined by the ITAR?

Analysis and Comments

There is no award involved with this scenario and, therefore, no restrictions on information received. The project falls under ITAR Category XV.

Would the informal exchange of ideas and information normally generated by such a visit constitute the provision of a defense service requiring the university to obtain a license before it could proceed?

To be considered either an "export" or a "deemed export" for purposes of ITAR controls, the technology or data involved has to be subject to the ITAR in the first place.[4] There are two exemptions and one exclusion, all related, that may operate to remove your department's research and activities from ITAR jurisdiction. If any of these apply, that is the end of the inquiry, and the visit will not be subject to ITAR deemed export controls:

1. EXEMPTION - If the information generated in and by the School of Aeronautics and Astronautics to which the visitors will be exposed constitutes general scientific, mathematical, or engineering principles commonly taught in colleges and universities, it is outside the definition of "technical data" that would be subject to the ITAR. (22 CFR 120.10(5))
2. EXEMPTION - Similarly, if the information that would be disclosed to the visitors is in the public domain, for example by being included in textbooks or published papers or magazine articles, it is not within the jurisdiction of the ITAR (22 CRR 120.10(5)).

[4] 22 CFR 120.17: Export means sending or taking a "defense article" or "technical data" out of the United States, transferring a "defense article" or "technical data" to a foreign person in the United States, or disclosing "technical data" to a foreign person in the United States. The definition of "technical data" excludes public domain information. Similarly, Fundamental Research, by definition, is in the public domain. The State Department recently confirmed that it does not restrict or control fundamental research; see 67 Federal Register 15099, 29 March 2002.

3. EXCLUSION - Finally, if all the research done by that department is openly-conducted (nothing secret, no participation restrictions based on citizenship) basic and applied science and engineering, the results of which will be shared broadly within the interested scientific community (no disclosure restrictions), then the ITAR does not apply to the data and processes and equipment involved in that research (22 CFR 120.11(8)).

On the defense service issue (and ignoring the prior discussion, which places the activities and research of this particular department outside the reach of the ITAR), a "defense service" is defined as the furnishing of assistance and/or training in the use, manufacture, handling, assembly, repair, operation, destruction, etc., of "defense articles" to foreign persons, providing "technical data" to foreign persons, or engaging in military training of foreign units and forces (22 CFR 120.9). This definition then points to another segment, 22 CFR 124.1 ("Manufacturing license agreements and technical assistance agreements"). That lengthy and confusing section states that approval of the Directorate of Defense Trade Controls must be obtained before public domain information regarding a "defense service" may be provided to a foreign national, notwithstanding the exemptions provided for in 22 CFR 125.4. Even public domain data could be caught up in this definition.

Although not applicable to this scenario, the only germane exemption provided by 125.4 is that for the disclosure of unclassified "technical data" (by definition, not public) in the U.S. by U.S. "institutions of higher learning" to foreign persons who are their bona fide full time employees (which means they are either citizens or have a green card and would thus be eligible to receive the data anyway).

Universities rely not on 125.4, but on the protections afforded by the Fundamental Research Exclusion found at 22 CFR 120.11(8). They also invoke the exemption provided for "general scientific, mathematical, or engineering principles commonly taught in colleges and universities" and the exemption for public domain information, both of which are to be found in 22 CFR 120.10(5).

Universities and colleges gain additional support for the argument that their involvement with foreign nationals in the performance of fundamental research and higher education does not constitute a "defense service" based on 22 CFR 122.1(b). That clause provides that registration with the Directorate of Defense Trade Controls prior to furnishing "defense services" is not required for persons who engage only in the fabrication of articles for experimental or scientific purpose, including research and development.

Case #10 (Satellite Project)

Scenario

NASA has funded a very large multi-university project involving international collaborators with a university PI as head of the overall science team. There are four U.S. universities, one U.S. company and five foreign institutions. The primary goal of this NASA mission to advance the understanding of the structure of the Sun's corona, especially regarding the origin of the coronal mass ejections (CMEs), their evolution in the interplanetary medium, and the dynamic coupling between the CMEs and the earth environment. Two spacecraft would be launched into orbits that circle the sun. As there are ambitious scientific goals for this spacecraft mission, all the selected investigations included significant foreign participation in the design, development, and analysis phases. Items will be shipped to and from the foreign collaborators. Instructions on use and operation of equipment will need to be provided during certain phases of this project.

The NASA contract has no special clauses limiting publications or research results—it even has requirements for education and outreach programs.

Analysis and Comment

Although there are no specific clauses pertaining to publication or disclosure of the research results, or any restrictions on information received from the sponsor, all satellite-related instruments and technical data are subject to ITAR. This project involves both the shipping of items as well as providing specific instructions on defense articles which fall within the definition of defense services. Therefore, export control licenses must be secured from the State Department. Your institution holds the prime contract with NASA and must now not only decide what licenses need to be applied for in order to work with the foreign collaborators, but how this may affect subcontracts to other universities.

It is critical to seek legal counsel immediately. The institution should develop a plan for each element of the project and for each collaborator and how, in each case, ITAR will apply. This would include a strategy for the disclosure of required technical data and spacecraft simulators to foreign principal and co-investigators. The strategy would also include the applicability of exemptions. The institution must now register with the Department of State Directorate of Defense Trade Controls in order to obtain the licenses.

ITAR requires a Letter of Agreement (LoA) or Memorandum of Understanding (MOU) between NASA and each foreign partner providing hardware on a no-exchange of funds basis. The LoA is processed by NASA Headquarters (Code S and Code I) before being passed to the State Department for approval. In some cases, consolidated LoAs have been arranged for all the foreign partners in a single country in order to streamline the approval process. All project instruments include foreign hardware partners, thus all science teams are affected by ITAR. Until the LoA is approved (which can take many months), the foreign Co-Investigators and science team members may be shut out of meetings and teleconferences and denied access to significant portions of instrument websites used by managers to share design and schedule information. This may not only result in friction among normally collegial teams, but has a real cost impact

since the security for ITAR-controlled data requires additional software design and implementation efforts. Restrictions extend to denying access to any foreign nationals—graduate students, post docs, etc. All this information relating to the mission orbit design is important to the foreign experimenters before launch, in order to properly design one's instrument (e.g., size of occulting disk, thermal design — the science objectives).

Securing a Technical Assistance Agreement (TAA) including the U.S. university subcontractors will also be necessary, and those agreements, if not in place quickly, can delay for months the design and development. These will be required to the extent that instrument technical data instructions and details of design (as covered by the LoA) must be shared with foreign persons for the proper design, fabrication, assembly, and test of flight instruments.

This does not mean that the entire NASA project is restricted. Projects can be compartmentalized and, even with a complex project such as this, there are still portions that are appropriate for the application of the fundamental research exclusion. One can receive and protect export-controlled information on one portion of a contract (satellite instrument design instructions) and not need to use it in another part of the work (design and development of an experiment and/or the analysis of any resulting data from that experiment).

It is important to note that although the LoAs were necessary for the hardware, and the TAAs were necessary for the training, it was determined that no license was necessary for the scientific technical data falling outside those categories as that data could fall under the fundamental research exemption. Remember, there were no publication restrictions.

This case study illustrates how the application of export control regulations can affect large international collaborative scientific programs, particularly in the areas of schedule and costs, and perhaps in the ability to design and develop instrumentation jointly.

VII. "BEST PRACTICES" FOR EXPORT CONTROL COMPLIANCE IN A RESEARCH INSTITUTION

Below are some suggested practices and procedures currently in place at various institutions. These proposed practices are primarily meant to raise awareness of export control issues, facilitate the assessment of cases, and bring the appropriate university parties together as early as possible in the process.

A. During the proposal submission process, add questions to internal proposal routing forms inquiring of the researcher or the departmental or laboratory administrators whether:

- Any restrictions are placed on publication, disclosure, dissemination, or participation by the sponsor in Requests for Proposals (RFPs) or program announcements;
- The receipt of export-controlled information is expected to be furnished by others for use in the performance of this project;
- Any issues regarding export control have been mentioned by the sponsor; and/or
- The export of controlled technology or items is expected.

On the part of the research administrator staff, when reviewing a proposal submitted by a researcher, the statement of work and any draft agreement or other materials provided by the sponsor should be reviewed to see if they contain any language or terms that:

- Reference U.S. export regulations;
- Restrict non-U.S. entity participation based on country of origin;
- Prohibit access by non-U.S. citizens to project information;
- Prohibit the hiring of non-U.S. persons;
- Address the use of proprietary information;
- Address security concerns;
- Grant the sponsor pre-approval right on publications;
- Grant the sponsor a right to prepublication review for matters other than the inclusion of patent and/or proprietary sponsor information; or
- Allow the sponsor to claim resulting research information as proprietary or trade secret.

The research administrative staff should be trained to look for these kinds of provisions. In particular, if these terms are found within an RFP or Broad Agency Announcement (BAA) at the early stages of planning research by

the researchers or their laboratory or departmental administrative staff, the research administrative staff should be contacted immediately so that these issues can be addressed as early as possible and there will be minimal delay in securing the funding.

B. Encourage researchers to include a standard statement such as the following in the executive summary or abstract of their proposals:

This is a fundamental research project and, as such, the University shall be free to publish or disseminate the results of this research or otherwise treat such results as in the public domain, and it will conduct the research in accord with National Security Decision Directive 189 and the applicable export control implementing regulations.

This language should preferably be in the proposal itself, as cover letters are often separated or may not be done at all, as with electronic proposal submissions. If the researcher does not wish to include this statement, a discussion regarding the project should be triggered. Including such a statement should make sponsors aware of the institution's position on publication and further support the exercise of the fundamental research exemption by the institution.

C. Designate an individual in research administration and/or your legal office to assist researchers and university administration in the identification and management assessment of export control matters. This "empowered official" should be the official contact person for both the governmental agencies as well as the researchers with respect to the treatment of all the issues raised above, and should also be closely supported by the outside counsel engaged for export control matters.

The institution should form a relationship with an outside counsel firm that is skilled at dealing with export control issues of the type that arise in a university setting, preferably in advance of a serious situation. While the use of such counsel is necessarily a function of budgetary constraints, an institution must, for its own protection, be willing to use outside counsel when necessary, as the penalties for non-compliance with the export control laws can be very severe and could include substantial monetary as well as criminal penalties. When export control questions do arise, they are generally complex as well as sporadic, and it is unrealistic to assume that any institution will have trained legal counsel on staff to handle these complex issues; however, they can be very helpful in supporting and managing the use of outside counsel. When interviewing for outside expertise, it is critical to ask if the attorney is familiar with the fundamental research exclusion for university "deemed exports" and if they know of National Security Decision Directive 189.

D. Establish a resource within the institution to assist the researcher and administrators in determining whether a project constitutes fundamental research (for deemed export purposes) or would fall under technologies covered by the export control laws. In some institutions, a faculty review

committee may be helpful, as often administrators are not technical experts and the export control lists are lengthy and not user-friendly. A committee made up of a few faculty members "on-call" in the fields most often supported at your institution can be helpful when research is discussed and a determination is made whether the technology is covered under export control laws. Once this initial determination has been made, however, it is wise to consider confirming this finding with outside counsel, as the laws and lists are constantly being revised.

E. Establish a training/awareness program for researchers and research administrators, paying special attention to those departments or laboratories that are most likely to have projects in covered technologies, such as engineering, computer sciences, and space science. At the minimum, a website providing information both on the export control laws in general and the institutional policies and procedures should be developed and made available institution-wide. To the extent possible, information should be presented that is tailored to the needs of a department or laboratory and provide an opportunity for specific questions to be answered. Periodic reiteration and updates should also be part of your procedures.

F. Be prepared for the eventuality of dealing with an outside contractor/vendor (on a fundamental research project) that may possess information or technology relevant to the project that is subject to nondisclosure restrictions under the export control regulations. Unlike university-generated information or technology, which normally will be in the public domain and exempt from deemed export controls, a vendor's data or material may be legitimately subject to controls. This is actually analogous to the situation where an outside contractor or vendor has to share proprietary information with a researcher. In such instances, where the restricted information or technology is substantially remote from the intellectually significant portions of the research, it may be possible to enter into nondisclosure agreements with eligible individuals (U. S. citizens or green cardholders) and thus protect the vendor's material. This does not affect your ability to invoke the fundamental research exclusion, because the restriction is not on university-generated information but is placed on information or technology belonging to a third party.

G In the ideal world, the fundamental research exemption would relieve institutions of any further concern regarding deemed export controls and no sponsor would ever attempt to restrict publication. However, it is realistic to assume that specific projects may reach a level where they are reported to the designated official or office for handling export control matters and it is determined that some affirmative action should be taken at the institutional level to ensure that the institution and the researchers are in compliance with the export control laws. Depending on the specific circumstances of the project, some or all of the following procedures should be discussed and implemented as appropriate:

- A laboratory space (as minimal as possible to accomplish the aspect of the research that is export-controlled) should be designated as an area in which special procedures must be followed. To that end, the research project as a whole should be reviewed to isolate those individual tasks within the research project that need to be subject to control.
- Logs should be maintained for managing access into and movement out of this designated laboratory space.
- Locks on any entry into this designated laboratory space should be installed or changed so that only personnel permitted on a project can gain access. *[Note: if it is determined that the above measures are required, it is imperative to assure that* ***janitorial, maintenance, locksmiths, police, and delivery/courier individuals with access to the space*** *are included in this process. Most likely, institutional processes will need to be adjusted.]*
- Computers must be secured and/or monitored so that export-controlled information is not inadvertently made available to individuals not permitted to receive it. The information systems staff should be engaged to identify the least burdensome but most effective use of passwords, certificates, or other means of securing computers used in a project that may contain export-controlled material, particularly when they are networked into the institution.
- Where students are engaged in a project, their identity, nationality, and level of access must be continually monitored during the course of the project, as the needs for these management measures may change when individuals they are intended to cover for compliance with the export control laws either leave or join the project.
- In addition to the training mentioned above in E, for each project there should be a training session in the export control laws and why they apply to this project. Ideally, all participants involved in the project will sign a statement acknowledging that they have been briefed about these requirements and agree to comply with them.

Please note that these procedures are case-specific and should <u>only</u> be considered and/or implemented if it has been determined that such precautions are required for an institution's compliance with the export control laws. Also, be aware that adopting any of these processes or procedures that affect university-generated information or technology (affecting " the conduct" of fundamental research) may taint the university's overall research activities and preclude reliance on the fundamental research exclusion with regard to any such information or technology.

APPENDIX 1

Frequently Asked Questions (FAQs)

The following FAQs summarize and expand on the material presented in the brochure. They present some questions and considerations that often arise for universities with regard to export controls.

1. What is an "empowered official"?

This is the individual in research administration and/or your legal office designated as the contact to assist researchers and university administration in the identification and management assessment of export-controlled matters. This "empowered official" would be the official contact for governmental agencies. ITAR regulations require that this person be empowered to sign license applications or other requests for approval on behalf of your university.

2. While information generated by a university in performing fundamental research may be covered by the fundamental research exemption, do we need to worry about export-controlled information coming to us under non-disclosure agreements (NDAs) from third parties, e.g., vendors and contractors that support the research effort?

Yes. This is the area of greatest vulnerability for fundamental research (public domain basic and applied research in science and engineering carried out at U.S. universities). In the course of conducting fundamental research, it may be necessary to purchase components or parts from a third party or have a third party fabricate an apparatus or piece of equipment to our specifications. That vendor/manufacturer may consider its technology to be both proprietary and export-controlled, especially if it is satellite-related. It may be possible for a university to designate eligible individuals (that is, those entitled by virtue of their status as citizens or permanent resident aliens) to receive the export-controlled information—information that must be protected from further disclosure in much the same way as business proprietary information is protected.

However, foreign students are unlikely to qualify for receipt of this third-party information. Because the data usually is not directly related to the research, it can be sequestered pursuant to an NDA and given only to eligible personnel without disadvantaging any researcher's academic career. Moreover, with regard to controlled third-party data that a foreign researcher may need, the vendor or manufacturer of the export-controlled information or technology can itself seek an export license or a Technical Assistance Agreement that may enable them to disclose their data to the otherwise ineligible foreign persons involved in the research or experiment.

It has been noted that some third parties mark everything "export-controlled" apparently without giving it any thought, even going so far as to mark university-generated public domain information in that manner; should that occur, notify the vendor/contractor in writing that the public domain information provided to them by the university retains its public domain character and will be treated as such by the university.

However, other companies seem reluctant to mark what they deem export-controlled as such when they pass it on. Because they are providing the information to a U.S. institution, they argue that they would not be required to seek a license to convey the information and/or material to us and consequently do not need to inform us of the controlled nature of the information. This leaves your institution at risk and must be rejected. If your project involves third-party information for a technology usually covered by export controls, language in the contract with the third party should require advance notice when it is thought that export-controlled information may have to be shared with the researchers, and you may wish to include a contract clause permitting the university to terminate the contract if the vendor needs but refuses to obtain an export license in order to share its data or technology with the foreign researchers. If you are able to proceed under an NDA because you can limit the disclosure to eligible individuals, the NDA should require: (1) the labeling of any proprietary information the company has deemed as export-controlled; (2) a notification to the sponsored research office that such information is to be provided; and (3) a right to refuse export-controlled information.

To reiterate, it is the interface of a scientific/research apparatus created as part of a fundamental research effort (and thus not subject to deemed export constraints) with a vendor's export-controlled data that gives rise to the most difficult problems for fundamental research activities.

3. Could restrictive language in Material Transfer Agreements (MTAs) give rise to any export control concerns?

Yes. Just as with information received through a non-disclosure agreement, material being transferred for use in a project under an MTA may be export-controlled, and the provider should be required to indicate clearly and in advance whether they consider the material to be export-controlled. Some of the same language protections as suggested above for non-disclosure agreements in FAQ 2 should be included in MTAs. Pay attention to ITAR 120.17 in this regard; it indicates that visual access to technology by a foreign person in the U.S. is considered an export under that regulation. And remember, any approval requirements for publications or access control language would disqualify the use of the fundamental research exemption for the project.

4. Our Engineering Library has asked that we sign a DD Form 2345 so they may receive certain items that have been requested. Are these OK to sign?

No, unless your institution is prepared to except export-controlled information and all the legal requirements, liabilities, and risks that come with that move. Restricted information must be controlled. How would the institution control it? Who would control it? Would one have a separate section in the library for U.S. citizens only? Form 2345 is the Department of Defense (DoD) method of controlling dissemination of information that is in DoD's possession. It becomes an agreement to secure DoD approval prior to dissemination of the information and restricts access based on citizenship status. Projects using such information may then not qualify for the fundamental research exemption.

5. We have a sponsored project where we have accepted restrictions on publications, and thus it does not fall under the fundamental research exemption. However, we have reviewed the EAR and ITAR lists and are just not sure if our project even falls under an export control category, let alone which set of regulations. Is there anywhere to turn to have this determination made for us?

Yes. You can request a commodity jurisdiction ruling from the State Department Directorate of Defense Trade Controls. This will determine if the project is subject to export controls and, if so, which regulations are applicable.

6.a. Suppose we successfully negotiate restrictions on publications and foreign nationals out of a government research award, then find out that the agency removed these restrictions based on informal assurances from our principal investigator to the agency program official that none of the research findings would be published or any foreign nationals hired to work on the project without that program officer's approval. Have we lost the fundamental research exception?

Possibly. The argument would be whether your investigator acted as an agent for the institution or in his/her individual capacity. In the latter case, the institution probably would not be liable for an export control violation if a foreign national subsequently was given access to information about the project without obtaining an export license.

6.b. What happens in the above situation if our principal investigator subsequently shares research data on our campus with a foreign colleague, and the project involves a controlled technology?

If the data is not covered by the fundamental research or other exemption provided by the export control regulations, sharing this data even on campus may be considered a "deemed export" in violation of the regulations. For example, ITAR 120.17(4) defines a licensable "export" as the oral or visual disclosure or transferring of technical data to a foreign person, whether here or abroad. The voluntary disclosure requirements of ITAR 127.12 should be reviewed, especially in light of the enhanced disclosure requirements that may be applicable to universities under the Sarbanes-Oxley law. While the institution may not be liable, the investigator who disclosed the information could be subject to a fine and/or imprisonment. Investigators should be strongly discouraged from making such "side" agreements.

7. Are certain biological materials and information subject to export controls?

Yes. Export of materials that could possibly be used in chemical or biological weapons are regulated under the export control regulations. Examples include human pathogens, zoonoses,

toxins, animal pathogens, genetically modified microorganisms, and plant pathogens. An investigator planning to work with these materials should check with the appropriate institutional export control compliance official as to the need for a license if the materials are to be shipped outside the U.S. If foreign nationals are to be involved in the research on campus, the institution needs to assess whether the fundamental research or other exemption from export controls applies to the research. There also are a number of other laws and regulations that cover possession, use, and transfer within the U.S. of certain biological agents and toxins that have the potential to pose a threat to public health and safety. The COGR website contains information about these regulations.

8. We are planning to ship certain computer equipment and software that is on the export control lists to Canada. We also are planning to ship some satellite components to Italy for research purposes. Since both of these are "friendly" countries, do we need to be concerned about obtaining export licenses?

Yes. The fundamental research exclusion is unavailable for exports of hardware, and export control regulations apply to actual shipment of items covered by either the Commerce CCL or State USML lists outside of the U.S., regardless of destination. To the extent these are items intended for use in research, or will be re-imported as part of a scientific collaboration, other exemptions may be available. With regard to the shipment of the satellite components to Italy, it is possible that the March 2002 ITAR "clarification" might exempt the articles from the export license requirement, if all of the information about the articles is in the public domain and the components are being sent to certain universities or research centers in that country. However, there are some other special restrictions and requirements that apply in that situation. It is important to work closely with your export expediting company as well as your institution's export controls expert.

9. We are negotiating a sponsored research contract with the following clause:

The parties acknowledge that the subject of this agreement may be subject to ITAR, EAR and/or other export control regulations as mandated by federal law. University agrees to indemnify, defend, and hold Sponsor harmless from any and all suits, damages, or other liabilities resulting from the violation of such regulations.

We're anxious to complete the negotiations. Is there any problem with our accepting this clause?

Yes. Never agree to contract language that requires you to provide indemnification for violations of the export regulations. There are severe civil and criminal penalties for export control violations. Such an agreement may both subject the university to liability for events beyond its control and impose on the university the requirement that it manage and pay for any litigation associated with such violations, as well has having to pay penalties and fines deriving from another entity's misconduct.

10. How about boiling all of this down to the essentials?

Export control regulations are federal law. Do not rely on contract, grant, or other agreement terms to tell you whether the export regulations will apply, and challenge the assertion that the research being proposed is subject to export controls (dissemination, access, or participation restrictions) if you believe it is not. Fundamental research is clearly defined: basic and applied research in science and technology, performed by U.S. institutions of higher education, the results of which will be shared widely within the interested community (that is, placed in the public domain). Additionally, information and technology generated by fundamental research is also treated like fundamental research. The unlicensed disclosure of fundamental research information or technology to foreign persons in the U.S. is permissible. However, the transfer abroad ("export") of fundamental research proceeds under different rules and will generally require a license if no other exemption, exception, or exclusion is available.

In order to ensure that the university's work stays within the "safe harbor" of the Fundamental Research Exemption (FRE), be vigilant as to the following:

1. Make sure there are no restrictions of any kind on your ability to publish (although limited sponsor review for proprietary or patentable information may be OK); and
2. Assuming the source of support is the federal government, make sure there are no restrictions on the personnel that may be used on the project or restrictions on those who may have access to the research.

Even where the work you do falls clearly within the fundamental research exclusion, export controls (access, participation, dissemination restrictions) can still arise from interactions with third parties, such as vendors or manufacturers that generate or possess export-controlled information used in producing equipment that is needed to carry out the research. So while the detector you build is fundamental research, the pressurized housing built by a submarine manufacturer to protect it may be export-controlled— the interface of your equipment and theirs may require you to access third-party data (e.g., where to put the bolt holes) that must be protected from disclosure to ineligible individuals. Careful management is required in this interface area, and the owner of the controlled information (the vendor) may have to seek a license to share it with the research project participants if it is not possible to limit its disclosure.

Watch out for flow-down clauses in subawards to you from other organizations that incorporate publication/personnel restrictions. Some of these may be obvious; others less so.

Remember, you will always need a license to ship an actual device, piece of equipment, or other embodiment of a controlled technology outside the shores of the U.S.

APPENDIX II

RESOURCES

The Commerce Department requirements and EAR license application forms are available at http://www.bis.doc.gov. The State Department requirements and ITAR application forms are available at http://www/pmdtc.org. A large, frequently updated database on export regulations is available at http://w3.access.gpo.gov/bis/index.html. For background on the history of export control laws, see http://cse.stanford.edu/class/cs201/projects-98-99/export-controls/pastlaws.html.

The COGR website also contains extensive background information on export controls under *Educational Resources*.

There also are a number of useful university websites. These include:

- MIT (http://web.mit.edu/osp);
- The University of Maryland (http://www.umresearch.umd.edu/ORAA/ecg);
- The University of Michigan (http://www.research.umich.edu/policies/federal/export_controls_details.html);
- Texas A&M University (http://rf-web.tamu.edu/security/SECGUIDE/S2unclas/Export.htm#Export-Control);
- The Berkeley and University of Chicago Laboratories (http://www.lbl.gov/ehs/security/01export/manual.html) (http://www.ipd.anl.gov/excontrol/policy.html); and
- The University of Oklahoma (http://research.ou.edu).

Note: the MIT Office of Sponsored Projects website also provides specific information on select agents and export controls at: http:// web.mit.edu/osp/www/osp_Booklet_2003/export_chemicals.htm.

A useful government website is http://www.dtic.mil/dtic/stinfo/exportcontrol.html).

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