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Fundamental Research: An Off Misunderstood Exemption To Export Control Rules

Academic freedom and the free and open exchange of information are vital to cutting-edge research and development undertaken by universities. This concept, as applied to export controls, is termed “fundamental research” and was first delineated by the U.S. Government pursuant to National Security Decision Directive 189 in 1985, and was subsequently affirmed in 2001. When conducting technical research that might otherwise be subject to U.S. export controls, universities with foreign professors and students rely heavily on the fundamental research exemptions to the export controls administered by the Department of Commerce, Bureau of Industry and Security (BIS), and the Department of State, Directorate of Defense Trade Controls (DDTC). BIS administers the Export Administration Regulations (EAR), which control the export of “dual-use” items and technology that have both commercial and potential military application. DDTC administers the International Traffic in Arms Regulations (ITAR), which control the export of defense articles and technical data.

U.S. export control restrictions on technology and technical data apply broadly to include information such as that necessary for the design, development, manufacture, operation, maintenance, modification, etc. of items controlled under the EAR and ITAR. Moreover, the control of “exports” includes control of what are commonly referred to as “deemed exports” to foreign nationals located in the U.S. Deemed exports consist of the transmission of technical information to non-U.S. persons, i.e., persons who are not U.S. citizens or lawful permanent residents. Technical information can be transmitted in writing, orally, via e-mail and even

visually by allowing a person to view a product in a way that permits them to ascertain technical information about the product. Items and technical data that are ITAR-controlled and not subject to the fundamental research exemption or another exemption likely would require a DDTTC license to export or otherwise transmit to nationals of all countries. BIS licensing requirements are less stringent, requiring licenses only to certain countries or nationals thereof, depending on the reason the item is controlled.

Technical research conducted in universities, particularly research funded by the U.S. Government or undertaken pursuant to a contract or subcontract relating to a U.S. Government program, should be reviewed by universities to determine whether the research may be controlled under the ITAR or EAR, and if so, whether the fundamental research exemption applies. Although the fundamental research exemptions in the EAR and the ITAR contain subtle differences, they generally provide that export licensing requirements do not apply to providing technical data to foreign national students and professors in U.S. classrooms or laboratories for basic and applied research in fields such as science and engineering, if the technical data transferred is of the type ordinarily published and shared broadly within the scientific community. In addition, the ITAR and EAR do not control data considered to be in the “public domain” or “publicly available,” respectively. Both the EAR and ITAR warn that imposing publication or other restrictions on disseminating university research can remove the research from the categories of publicly available data and fundamental research.

The fact that universities file very few applications to engage in deemed exports of ITAR- or EAR-controlled technical data to foreign national students and professors demonstrates how heavily they rely on the EAR and ITAR fundamental research exemptions. Therefore, universities relying on these exemptions should ensure that they engage in projects and bidding opportunities that truly constitute “fundamental research” as defined by the regulations, and must carefully review the contractual provisions associated with potential work for any indication that another party involved in the program may

view parts of the work as falling outside the parameters of fundamental research.

Recent Government Focus on University Compliance—The regulatory framework surrounding U.S. export controls in the university setting gained heightened attention in 2006 as a result of two U.S. Government publications. First, on May 31, 2006, BIS issued a “revision and clarification” of the EAR deemed export regulatory requirements, in response to a March 2004 Department of Commerce inspector general report. See 71 Fed. Reg. 30840. The report, “Deemed Export Controls May Not Stop the Transfer of Sensitive Technology to Foreign Nationals in the U.S.,” noted that it was likely that many U.S. research facilities and academic institutions were not applying for required deemed export licenses, citing the historical lack of license requests from such institutions. The IG offered several recommendations for tightening or clarifying the EAR deemed export rules, including expanding of the concept of foreign nationality under the EAR to include country of birth as well as country of citizenship, and strengthening EAR controls on the sharing of technologies necessary for the “use” of controlled products (including in the course of university “fundamental research”).

Academic institutions reacted strongly to the IG’s recommendations. In written comments to BIS, the Association of American Universities characterized the recommendations as “not founded on evidence” and argued that it was essential to include “the use of equipment and associated technologies in the conduct of fundamental research” within the scope of the “fundamental research” exclusion, because “the conduct of fundamental research and the results of that research (‘technology arising during or resulting from’) are inseparable.”

BIS ultimately did not implement the IG’s principal recommendations, and it explicitly endorsed a narrow definition of “use” technology under the EAR, consistent with the views expressed by many academic institutions. Specifically, BIS agreed that the definition of “use” technology included technology relating to all of the following activities in connection with an EAR-controlled product: operation, installation (including on-site installation), maintenance, repair, overhaul and refurbishing. But BIS did make clear that EAR-controlled technologies used in a “fundamental research” project may require a license under the EAR, even if the overall project falls squarely within the regulatory definition of “fundamental research”:

It is essential to distinguish the information or product (which may be in the form of a scien-

tific paper or publication that describes and/or details the results of the fundamental research) that results from fundamental research from the conduct that occurs within the context of the fundamental research. While the *product* of the fundamental research is not subject to the EAR because the results of that research are intended for publication and dissemination within the scientific community, *authorization may be required if during the conduct of the research controlled technology is released to a foreign national.*

(Emphasis added.)

More recently, on Dec. 5, 2006, the Government Accountability Office published a report, *Agencies Should Assess Vulnerabilities and Improve Guidance for Protecting Export-Controlled Information at Universities* (GAO-07-70), which has again focused attention on academic institutions’ compliance with export controls. Echoing the earlier IG report, GAO noted BIS and DDTC “concerns” “that universities may not correctly interpret and apply export regulations—a concern raised by the rarity of export license applications from U.S. academic institutions, considering the large foreign student and scholar population studying and conducting research in the United States.” GAO did not recommend immediate changes to the EAR or ITAR, but did recommend that BIS and DDTC “strategically assess potential vulnerabilities in the conduct and publication of academic research” through a review of data regarding foreign populations in U.S. academic institutions, and increase outreach efforts to ensure that universities fully understand U.S. export controls requirements.

Potential Risk Scenarios for Fundamental Research and Public Availability Provisions—Several areas pose risks that academic institutions could inadvertently engage in unlicensed exports outside the “fundamental research” and public availability exclusions in the EAR and ITAR. The following scenarios are instructive:

1. Contract clause limits dissemination rights

Scenario: The contract between a sub-agency of the Department of Defense and a university includes a clause (such as Defense Federal Acquisition Regulation Supplement 252.204-7000) requiring the customer agency’s approval before information developed in the course of the project may be released to third parties. Although it is expected that the results of the project will be made public, the customer describes this restrictive clause as a “standard” clause that is applied in all of the agency’s research contracts.

Analysis: The December 2006 GAO report discussed above notes that U.S. Government and commercial prime contractors are “increasingly inserting restricting language in contracts for research that universities consider to be fundamental.” Under § 734.8 of the EAR, a project still may qualify as “fundamental research” even if there are prepublication review restrictions, provided the prepublication review clause is structured to ensure only that the university’s publication will not compromise patent rights or inadvertently divulge proprietary information that the Government previously provided. Other publication restrictions—no matter how “standard” from the perspective of the Government agency—risk disqualifying the project from the “fundamental research” exceptions.

2. Government imposes national security controls

Scenario: On a U.S. Government-funded project, a commercial prime contractor requires a university to submit research results for prepublication review to assess national security risks. A separate clause indicates the Government customer agency must approve any foreign national employees of the university before they are permitted to work on the project. Apart from these restrictions, the intent is that the project results will be made public.

Analysis: This project technically would not fall within the “fundamental research” exemptions under the EAR or ITAR. However, this example highlights the need to look to the full range of EAR and ITAR jurisdictional exclusions or license exemptions in evaluating export controls requirements.

In this hypothetical, the requirement for a license may depend on whether the technical data are EAR- or ITAR-controlled. Section 734.11 of the EAR would authorize the sharing of technology with foreign nationals under the circumstances described above, without a specific licensing requirement, if the university abides by the specific national security controls imposed by the Government agency. However, to qualify for this exclusion, the controls must be genuinely “specific.” General contractual references to U.S. export control laws or to the Government’s right to classify data in the interest of national security would not constitute “specific” controls.

If the technology is ITAR-controlled, a specific license from DDTTC may be required, as the ITAR does not contain a provision parallel to § 734.11 of the EAR. Nevertheless, § 125.4(b)(10) of the ITAR contains a license exemption allowing universities to share unclas-

sified technical data with foreign national employees, provided certain preconditions are met.

3. Restrictions on foreign national involvement

Scenario: A university is awarded a subcontract to perform research that ultimately will be used by the Air Force. The lead researcher on the product is a foreign-born professor who recently was granted lawful permanent residence in the U.S. Many other researchers, however, are foreign nationals in the U.S. on student visas. You notice that the subcontract flows down Air Force Materiel Command FAR Supplement 5352.227-9000, which states that equipment and technical data generated or delivered under the contract are ITAR-controlled, and that an export license is required before assigning a foreign person to perform work under the contract.

Analysis: It is possible that the prime contractor may not have considered whether it actually will provide the university with the ITAR-controlled equipment or technical data that it has received from the Government. Therefore, the university should engage in a dialogue with the prime contractor to determine what types of hardware and technical data, if any, it will receive from the prime contractor, and whether those actually are subject to the ITAR, thus potentially calling into question the appropriateness of the flow-down. Even if ITAR-controlled hardware and technical data are to be received by the university, it is worthwhile to consider whether a portion of the research requiring access to such ITAR-controlled hardware and technical data items could be segregated, leaving the remaining “fundamental research” to be performed by non-U.S. persons without access to controlled equipment or data.

4. Limitations on hardware exports

Scenario: ABC university is engaged in a “fundamental research” project with a foreign researcher who divides her time between the U.S. and her home country. The university mails a prototype hardware product overseas to the foreign researcher’s home. The product has operational parameters that would normally subject it to export controls, but it was designed exclusively from technical data that will be made public once the research project is completed.

Analysis: Under the EAR, the “fundamental research” exclusion applies only to technology, *not hardware*. Therefore, the export controls applicable to hardware (such as prototypes in research projects) would have to be evaluated separately under the EAR Commerce Control List, even if the product was built in the course of a “fundamental research” project. The rule is essentially the same under the ITAR, although

§ 123.16(b)(10) of the ITAR contains a limited license exemption allowing the export to certain countries of satellite-related hardware fabricated exclusively for fundamental research purposes.

Compliance—Given the increased focus by Government agencies and prime contractors on export compliance, and the potentially costly implications of violating export control laws, it is critical that universities carefully consider the impact of export controls on their work. Specific actions that can be taken include:

1. Carefully reviewing all contract provisions and requests for proposal

Contract provisions that negate the fundamental research exemption—and thereby impose potentially burdensome export compliance requirements on research projects—come in a variety of forms. Perhaps most common are clauses that limit the university's ability to publish or otherwise disclose the fruits of its research. Such language should be identified, and its impact considered. Universities have had certain clauses excluded from their contracts. In addition, contract and procurement personnel, including those responsible for responding to requests for proposals, should be aware of language that restricts the ability of foreign nationals to participate in research or receive access to technical data, suggests that parts of the research may be controlled for export, or seeks to claim the results of the research as proprietary. Such clauses should be reviewed carefully to determine whether the fundamental research exemption would continue to apply to all research activity occurring under the contract, or whether some or all of the activity would be considered export controlled.

Moreover, language in a contract or request for proposals is sometimes not clear, leaving administrators to question the effect on the fundamental research exemption. In such circumstances, universities should raise and clarify such issues as early as possible in the procurement cycle. Finally, contract personnel and those heading the research efforts should recognize the need to reevaluate the application of the fundamental research exemption if contract requirements change prior to completion of the contract.

2. Maintaining the public nature of research projects when possible

Universities wishing to invoke the fundamental research exemption should ensure that research projects falling within the fundamental research exemptions of the EAR or ITAR remain eligible for the exemption by directing that research activities and results remain in the public domain. No party to the transaction should claim

the results of the research as proprietary or restrict dissemination of the information attained. The university should avoid affirmatively restricting the transfer of technical data to non-U.S. persons if the data are determined not to require an EAR or ITAR license for export to the persons involved, and should not apply other unnecessary restrictions on the dissemination of information. For example, documents should not be marked with a generic statement that the information contained therein “may be subject to U.S. export restrictions” or similar “warning” language related to export controls. Once research is completed, the university should ensure that research results are not made proprietary or otherwise restricted, though actual publication of the information is not required. Such steps should be documented by the university.

3. Establishing export compliance program

If the university undertakes a project not covered by the fundamental research exemptions, and to which the EAR or ITAR applies, the university must be prepared to comply with all applicable export laws and regulations. Essential elements of an export compliance program include:

- establishing a clear export compliance policy indicating that the university is dedicated to complying with all U.S. export laws and regulations;
- designating at least one individual as responsible for overall compliance with U.S. export laws;
- establishing a recordkeeping system to track any receipt or export of EAR- or ITAR-controlled technical data, software or hardware;
- educating personnel, including contracts administrators, project leaders, researchers and others on the basics of compliance with U.S. export laws and providing them with contact information for the individual(s) to whom they should address any questions related to export compliance;
- establishing a method to secure any ITAR- or EAR-controlled hardware and technical data involved in a research project, for example, by establishing access restrictions (locks, key cards, badges, etc.) for rooms or other physical locations containing controlled hardware, software or technical data, and by establishing access restrictions such as computer password requirements for electronically stored technical data;
- determining whether any hardware or technical data received from another party are subject to export restrictions, and marking EAR- or ITAR-controlled technical data as such, particularly that generated by the university's research;

- while being mindful of immigration and employment law considerations, collecting citizenship and nationality data for all personnel who may have the ability to access controlled technical data, and ensuring that non-U.S. persons are restricted from accessing controlled technical data without the appropriate license or other authorization;
- conducting periodic audits of export-controlled research programs to assess compliance with the EAR and ITAR.

4. Becoming active on the BIS Deemed Export Advisory Committee

In May 2006, after considering the IG recommendations relating to deemed exports, BIS announced the establishment of a Deemed Export Advisory Committee to review deemed export policy and provide recommendations to the BIS. Although members of the advisory committee are appointed by the secretary of commerce

to serve one-year terms, advisory committee meetings are typically open, at least in part, to public participation. BIS indicated in its agenda for the first meeting, held January 22 and 23 in Santa Clara, Calif., that technology transfer issues and U.S. academic and Government research facilities would be topics of discussion. The committee is expected to address deemed export issues as they relate to fundamental research.



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