UNDER THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS, FUNDAMENTAL RESEARCH OVERRIDES DEFENSE SERVICES

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For several years, particularly since September 11, 2001, government and corporate sponsors regularly have been telling colleges and universities that their research projects are "ITAR controlled" and that they must therefore restrict the participation of foreign nationals.[1] The University of Michigan received an official opinion from the Department of State on a space project that contradicts many such assertions.

In 2003, the University of Michigan (Michigan) had a student-run research project to evaluate field emitter array (FEA) cathode technology for charge stabilization in a spacecraft environment (the project). The project was to include designing and building various devices to test in a space environment and the necessary equipment to perform the tests. Michigan faculty and staff would assist the students. Among others, students from the People's Republic of China, India, Mexico, Singapore, Thailand, and the United Arab Emirates were involved in the project.

The project was part of a larger program (the program) sponsored by a United States Government agency (the agency). That program included projects from a number of colleges and universities. After the project was underway, the agency program manager sent a notice to the participating organizations that restrictions applied to who may participate in the program depending on their nationality. In what was described as an officially blessed set of guidelines prepared by members of the agency, there were two lists of countries. One list was of "Exempted Countries" for which no license would be required for participants; a second list was of "Prohibited Countries" for which participation was prohibited. The guidelines also said that a license from the Department of State would be required

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1. *See* 22 C.F.R. § 120.1 (2006).

for participation of nationals of countries not on one of the two lists.

The agency was effectively telling the participating colleges and universities that the activities under the program were controlled under the International Traffic in Arms Regulations (ITAR) as "defense services." "Defense services" as defined in ITAR include the provision of certain assistance, the provision of controlled technical information, or the provision of certain military training.[2] Under ITAR, permission is required from the Department of State to provide defense services to certain foreign nationals.[3] Technical data does not include information that is in the public domain.[4] Information that arises out of, or results from, fundamental research, is considered to be in the public domain; therefore, such information would not be considered technical data.[5] Overwhelmingly, research activities at colleges and universities meet the requirements to be considered fundamental research under ITAR. There did not appear to be any question that the activities under the project would be considered fundamental research. Nevertheless, from a literal reading of ITAR, Department of State approval might still be required for certain assistance to foreign nationals even though the information provided in

2. 22 C.F.R. § 120.9(a) (2006). For the express language of this provision, see *infra* Part II.

3. 22 C.F.R. § 124.1(a) (2006). This provision states:

> The approval of the Office of Defense Trade Controls must be obtained before the defense services described in § 120.9(a) of this subchapter may be furnished. In order to obtain such approval, the U.S. person must submit a proposed agreement to the Office of Defense Trade Controls. Such agreements are generally characterized as either Manufacturing license agreements, technical assistance agreements, distribution agreements or off-shore procurement agreements, and may not enter into force without the prior written approval of the Office of Defense Trade Controls.

Id.

4. 22 C.F.R. § 120.10(a)(5) (2006). This provision states: "This definition [of technical data for purposes of ITAR] does not include information concerning general scientific, mathematical or engineering principles commonly taught in schools, colleges and universities or information in the public domain as defined in § 120.11." *Id.*

5. 22 C.F.R. § 120.11(a) (2006). This provision states:

> *Public domain* means information which is published and which is generally accessible or available to the public:
>
> . . .
>
> (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. Fundamental research is defined to mean basic and applied research in science and engineering where the resulting information is ordinarily published and shared broadly within the scientific community, as distinguished from research the results of which are restricted for proprietary reasons or specific U.S. Government access and dissemination controls. University research will not be considered fundamental research if:
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> (i) The University or its researchers accept other restrictions on publication of scientific and technical information resulting from the project or activity, or
>
> (ii) The research is funded by the U.S. Government and specific access and dissemination controls protecting information resulting from the research are applicable.

Id.

providing the assistance is in the public domain.[6] The approval by the Department of State, if required, would be provided by approval of a Technical Assistance Agreement (TAA) executed by the U.S. nationals providing the defense services and the foreign nationals that would receive the defense services.[7]

The issue effectively raised by the agency's guidelines was whether the Department of State needed to approve the participation of certain foreign nationals in the program's research projects as being activities that would be considered defense services, even though those activities otherwise met the conditions under ITAR to be considered fundamental research.

According to the agency's guidelines, the current students on the project from China were prohibited from participating, and licenses from the Department of State would be required for the participation of the current students from the other aforementioned countries. Given that the project had already started, there was also an issue as to whether or not Michigan needed to give notice to the Department of State that a potential ITAR violation had occurred.

With the assistance of outside counsel,[8] on December 15, 2003, Michigan filed with the Department of State a Request for Opinion as to whether approval was needed for the foreign students to participate in the project. Michigan assumed that the form needed for such approval would be a TAA. A draft TAA and a preliminary notice of a potential ITAR violation were filed with the Request for Opinion.

The Department of State issued an opinion dated April 8, 2004, stating that the activity was fundamental research, no license was required, and no violation of ITAR had occurred.

Based on a detailed analysis of the facts presented to the Department of State and the opinion received, and consistent with informal feedback received by outside counsel from the Department of State, it is clear that if an activity meets the requirements under ITAR to be considered fundamental research, no license (including an approved TAA) is required from the Department of State to include foreign nationals from any country in the activity, even though the project activity might also fit the definition of a "defense service."[9]

It is not clear which specific provisions of ITAR the Department of State interpreted in arriving at this opinion, which was quite brief and devoid of

6. 22 C.F.R. § 124.1(a) (2006). This provision states:

> The requirements of this section [to obtain approval of a technical assistance agreement] apply whether or not [controlled] technical data is to be disclosed or used in the performance of the defense services described in § 120.9(a) of this subchapter (e.g., all the information relied upon by the U.S. person in performing the defense service is in the public domain or is otherwise exempt from the licensing requirements of this subchapter pursuant to § 125.4 of this subchapter).

Id.

7. For details on the requirements for technical assistance agreements, see 22 C.F.R. § 124 (2006) regarding agreements, off-shore procurement, and other defense services.

8. Steve Brotherton and Richard Pettler of the law firm of Fragomen, Del Rey, Bernsen & Loewy, LLP.

9. Although the activities and opinion discussed in this paper occurred in 2003 and 2004, there have been no subsequent revisions to ITAR that would affect the result.

explanation. The opinion could mean that if an activity is fundamental research then it would not be considered a "defense service"; or, it could mean that if an activity were fundamental research, no license would be required even though the activity would also be considered a "defense service."

Nevertheless, the reader should be cautioned. Although there were strong indications during and subsequent to the review by the Department of State that were consistent with the conclusion presented in this essay, the Request for Opinion was for a specific set of facts and the opinion received by Michigan was quite brief and vague. The Department of State could hold differently under other circumstances.

For potential future export issues, as usual, other government regulations should also be considered, particularly the Export Administration Regulations (EAR) under the Commerce Department, and the various regulations administered by the Office of Foreign Assets Control (OFAC) in the Treasury Department.

I. BACKGROUND DETAILS

A. Opinion from the Department of State

The following excerpt from the Department of State's opinion, regarding Michigan, dated April 8, 2004, was received from Patricia Slygh, Chief Compliance and Registration Division, Bureau of Political-Military Affairs, Directorate of Defense Trade Controls, U.S. Department of State (DTC Case VD04-110): "The decision was that the activity as described in your request would be considered fundamental research not subject to licensing by the Department of State. Thus no violation occurred requiring the filing of a disclosure to my office."[10]

On its face, this opinion can reasonably be interpreted to have a broad meaning that, in general, no license from the Department of State would be required for any foreign nationals to participate in any activity that meets the ITAR requirements to be considered fundamental research.

Nevertheless, the opinion from the Department of State was quite brief. To

10. *Opinion from Department of State* (on file with author). The following is the full contents of the letter to the University of Michigan dated April 8, 2004, from Patricia Slygh, Chief Compliance and Registration Division, Bureau of Political-Military Affairs, Directorate of Defense Trade Controls, U.S. Department of State (DTC Case VD04-110):

> The Office of Defense Trade Controls Licensing, within the Directorate of Defense Trade Controls, has advised our Compliance & Registration Division that a determination was reached regarding the University of Michigan's advisory opinion request (Case No. GC-1199-03). The decision was that the activity described in your request would be considered fundamental research not subject to licensing by the Department of State. Thus, no violation occurred requiring the filing of a disclosure with my office. Our case is therefore being closed and we will proceed no further in this matter.
>
> If you have any questions or comments regarding this issue, please direct them to Mr. Paul Lacombe of the Compliance & Registration Division at (202) 663-2855.

Id.

address the issue that the opinion might be limited by some specific facts in the subject case, a detailed analysis of the opinion received from, and the facts presented to, the Department of State is given below.

B. Request for Opinion

The opinion request sent to the Department of State was as follows:

> For purposes of the federally funded project, will UM require a Technical Assistance Agreement prior to furnishing defense services to certain foreign person students when all of the underlying information is considered "fundamental research" as defined by ITAR Part 120.11(8)?
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> Without addressing the availability of the Category XV(e) exemption found in Part 125.4(d)(1), the threshold question is whether the Department of State intended Part 124.1 to apply to unclassified federally-funded student projects involving public domain information developed through fundamental research at an accredited institution of higher learning in the U.S.[11]

C. Facts Presented on Behalf of the University of Michigan in the Request for Opinion

The opinion request document included the following statement of facts:

> The project activity was at the University of Michigan.
>
> Implied: the University of Michigan is an accredited institution of higher education in the United States.
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> The project is student-run and educational.
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> The project was federally funded.
>
> The project will help evaluate a new kind of electronic emission technology, Field Emitter Array ("FEA") cathode technology, for spacecraft charge stabilization in a spacecraft environment.
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> The FEA technology is an enabling technology for certain advanced space applications, including spacecraft charge control, low-power electronic propulsion thrusters, and propellantless electrodynamic tether propulsion systems.

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11. *Request for Opinion* and accompanying documents (on file with author). 22 CFR § 121 (2006) describes the articles in The United States Munitions List (USML), which are the articles to which ITAR applies. The articles are enumerated by categories in § 121.1. The articles, including technical data, relevant to the subject opinion from the Department of State, would be in Category XV—Spacecraft Systems and Associated Equipment. § 125 describes licenses required for the export of technical data controlled under ITAR. § 125.4 provides for exemptions of general applicability to the licenses defined in § 125. § 123 describes licenses required for the export of defense articles controlled under ITAR. § 123.16 provides for exemptions of general applicability to the licenses defined under § 123. § 123.16(b)(10) provides for certain exemptions specific to export activities of accredited U.S. institutions of higher learning related to articles in the USML Category XV.

> The primary FEA technology has been developed over the past 20 years for display applications similar to LCD displays.
>
> UM's experiment will demonstrate the use of FEAs in space.
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> The team includes faculty and student principal investigators, engineering mentors and a lead engineer. UM faculty as well as U.S. students will engage in technical interactions with the foreign students on the project, including without limitation those necessary to design, develop, engineer, manufacture, produce, assemble and test the system.
>
> Foreign students are participating from China, India, Mexico, Singapore and Thailand. In the draft TAA, a student from United Arab Emirates was also listed. Thailand was not addressed in the draft Technical Assistance Agreement, since that country became eligible for an exemption while the documents were being prepared.[12]

D. Additional Facts Presented in Attachment 1 to the Request for Opinion

The following additional facts were included in Attachment 1 to the opinion request document and were incorporated by reference into the request:

> The experiment payload has two primary goals: (1) demonstrate the ability of the FEAs to operate in the space environment in the ionosphere and in the presence of shuttle outgassing and effluents; and (2) demonstrate the ability of the FEAs to move charge away from a spacecraft into the ionosphere.
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> The mission is designed with the knowledge that the FEAs being flown are experimental.
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> The power supplies for the project will be designed and built by students and University of Michigan engineers.
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> Faculty and professional engineers from the University of Michigan Space Physics Research Laboratory will act as additional mentoring resources.[13]

E. Additional Information Presented in the Draft TAA, Enclosed with the Request for Opinion

The draft TAA that was enclosed with the opinion request document included the following additional facts:

> The responsibilities of the student from China include reliability analysis and support of documentation for the command and data handling subsystem. This student is from Guangzhou, GuangDong, China.
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> The responsibilities of the students from India include software design

12. *Request for Opinion* and accompanying documents (on file with author).
13. *Id.*

> for control, support testing of payload components and design of payload mounting stand.
>
> The responsibility of the student from Mexico is project management.
>
> The responsibility of the student from Singapore is support on Finite Element Analysis of Main Structure.
>
> A student is listed as being from the United Arab Emirates, with responsibility for software design for control.[14]

F. Legal Interpretations Made on Behalf of the University of Michigan in the Request for Opinion

The following legal interpretations were asserted in the opinion request document:

> The project meets the criterion for, and qualifies as, "fundamental research" as defined by ITAR Part 120.11(8).
>
> The hardware and related technical data, including certain unproven design data, are listed on the U.S. Munitions List under Categories XV(e) and (f).
>
> The technical interaction of the Michigan faculty and U.S. Students with the foreign students would qualify as defense services.
>
> Part 124.1 should be read and interpreted as not requiring a Technical Assistance Agreement during the conduct of fundamental research (as defined in 120.11(8)) in science, technology and engineering at accredited institutions of higher learning.
>
> A positive opinion on this request would leave in place necessary controls in other settings, including, without limitation, other public domain conduct and information not arising from fundamental research, as well as a host of other situations not "four square" within the express language of NSDD 189.[15]

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14. *Id.*

15. *Id.* The following is the express language of Nat'l Sec. Decision Directive (NSDD) 189, National Policy on the Transfer of Scientific, Technical and Engineering Information (Sept. 21, 1985), *available at* http://www.fas.org/irp/offdocs/nsdd/nsdd-189.htm.

> I. PURPOSE
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> This directive establishes national policy for controlling the flow of science, technology, and engineering information produced in federally-funded fundamental research at colleges, universities, and laboratories. Fundamental research is defined as follows:
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> "'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."
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> II. BACKGROUND

II. ANALYSIS OF SCOPE OF OPINION FROM DEPARTMENT OF STATE

The provisions in ITAR that specify requirements for a license from the Department of State are at § 123.1 for defense articles ("defense articles" as defined at § 120.6 includes both items and technical data); § 125.2 for unclassified technical data; and § 124.1 for providing defense services as described in § 120.9(a).

A license from the Department of State under ITAR is never required unless the object or technical data to be exported or the service to be performed involves an item on the United States Munitions List (USML).[16]

Given the facts provided to the Department of State in the Request for Opinion and accompanying documents, the items for which all of the relevant foreign students would participate in the development, and the technical data related to

> The acquisition of advanced technology from the United States by Eastern Bloc nations for the purpose of enhancing their military capabilities poses a significant threat to our national security. Intelligence studies indicate a small but significant target of the Eastern Bloc intelligence gathering effort is science and engineering research performed at universities and federal laboratories. At the same time, our leadership position in science and technology is an essential element in our economic and physical security. The strength of American science requires a research environment conducive to creativity, an environment in which the free exchange of ideas is a vital component.
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> In 1982, the Department of Defense and National Science Foundation sponsored a National Academy of Sciences study of the need for controls on scientific information. This study was chaired by Dr. Dale Corson, President Emeritus of Cornell University. It concluded that, while there has been a significant transfer of U.S. technology to the Soviet Union, the transfer has occurred through many routes with universities and open scientific communication of fundamental research being a minor contributor. Yet as the emerging government-university-industry partnership in research activities continues to grow, a more significant problem may well develop.
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> III. POLICY
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> It is the policy of this Administration that, to the maximum extent possible, the products of fundamental research remain unrestricted. It is also the policy of this Administration that, where the national security requires control, the mechanism for control of information generated during federally-funded fundamental research in science, technology and engineering at colleges, universities and laboratories is classification. Each federal government agency is responsible for: a) determining whether classification is appropriate prior to the award of a research grant, contract, or cooperative agreement and, if so, controlling the research results through standard classification procedures; b) periodically reviewing all research grants, contracts, or cooperative agreements for potential classification. 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.

Id. Condoleezza Rice confirmed President Reagan's directive by stating that NSDD 189 continues to be the policy of the administration of President George W. Bush. *See* Letter from Condoleezza Rice, Assistant to the President for Nat'l Sec. Affairs, to Dr. Harold Brown, Co-Chairman, Ctr. for Strategic & Int'l Studies (Nov. 1, 2001), *available at* http://www.aau.edu/research/Rice11.1.01.html.

16. 22 C.F.R. § 121.1 (2006).

those items, would be included in the USML under Categories XV(e) and XV(f). Therefore, the opinion from the Department of State that a license is not required was based on an assumption that the subject matter of the project is on the USML and that this assumption is also true for the subject matter of the activities of all of the relevant foreign participants.

There is no suggestion in the facts presented to the Department of State that any physical items would be transferred to any of the participants in the project. This, therefore, was not an issue.

The only activities that might be controlled under ITAR would be those that seem to provide defense services to foreign participants, or that might be considered the export of technical data outside of the United States, or deemed exports due to the provision of information to the foreign participants in the United States.[17]

According to the Department of State Opinion, the activities of the project would be considered fundamental research under ITAR. There is no question that the information resulting from the project would ordinarily be published and shared broadly in the scientific community. The resulting information would, therefore, be public domain pursuant to ITAR § 120.11(a)(8).

Public domain information, including information resulting from fundamental research, is excluded under § 120.10(a)(5) from the definition of technical data in § 120.10(a), and therefore is not controlled under ITAR. This exclusion is confirmed and emphasized in ITAR § 125.1(a): "Information which is in the public domain (see Section 120.11 of this subchapter and 125.4(b)(13)) is not subject to the controls of this subchapter."[18] The reference to "subchapter" is to Subchapter M—International Traffic in Arms Regulations. In other words, information resulting from the project, and from fundamental research in general, is not controlled by ITAR.

For each of the provisions that specify the need for a license, exemptions exist under which no license would be needed.[19]

There do not appear to be any exemptions applicable for the project for the relevant foreign students. It is immediately obvious for most potential exemptions. For a potential exemption for Category XV, a closer look is needed. For items controlled by Categories XV(a) and XV(e), there is an exemption described in § 125.4(d) for defense services; but, that exemption applies only to certain countries and does not apply to people who are from the countries relevant to the opinion. Therefore, the opinion from the Department of State that no license is required

17. *See* 22 C.F.R. § 120.9(a)(2) (2006) (indicating that technical data controlled under ITAR to foreign persons in the United States is deemed to be an export).

18. 22 C.F.R. § 125.1(a) (2006).

19. Under ITAR, approval from the Department of State is required in order to export certain items or technical information, or to provide technical services to foreign nationals. Each of the categories of activities has a limited number of exemptions from the requirements to obtain approval from the Department of State. See §§ 123.16–123.20 for the exemptions relevant to approvals for licenses to export defense articles; §§ 124.2–124.3 for exemption related to technical assistance and other agreements; and §§ 124.4–124.5 for exemptions related to the export of technical data and classified information.

would not be based on that, or any other, exemption.

No license is ever required under ITAR §§ 123.1 or 125.2 for the export, including deemed export, of information that results from fundamental research as that term is defined in ITAR, since such information is not subject to control by ITAR. It is necessary, though, to further consider the license requirements under § 124.1 for providing defense services—which is the primary issue raised in the Request for Opinion.

Under ITAR § 124.1(a), approval of the Office of Defense Trade Controls must be obtained before the defense services described in ITAR § 120.9(a) may be furnished.

§ 124.1(a) specifies that in order to obtain approval from the Office of Defense Trade Controls for a defense service, a U.S. person must submit a proposed agreement. The agreement must be executed by the college or university and the participants, and approved by the Office of Defense Trade Controls—such approval being a form of license. Such agreements are generally characterized as one of the following: manufacturing license agreements, TAAs, distribution agreements, or off-shore procurement agreements. Among these types of agreements, the only one that might apply to a project that is solely fundamental research is the TAA.

According to ITAR § 120.9(a), a "defense service" means:

> (1) The furnishing of assistance (including training) to foreign persons, whether in the United States or abroad in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing or use of defense articles;
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> (2) The furnishing to foreign persons of any technical data controlled under ITAR (see Section 120.10), whether in the United States or abroad; or
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> (3) Military training of foreign units and forces, regular and irregular, including formal or informal instruction of foreign persons in the United States or abroad or by correspondence courses, technical, educational, or informational publications and media of all kinds, training aid, orientation, training exercise, and military advice (see also Section 124.1).

As discussed above, technical data that results from fundamental research is not controlled by ITAR. Given the opinion from the Department of State that the project would be considered fundamental research, § 120.9(a)(2) would not apply. This would be true for all data resulting from any activity appropriately considered fundamental research.

The project clearly would not involve military training of any sort, so § 120.9(a)(3) would not apply. This also would be true for any project that did not involve military training.

The project and the activities of the relevant students would involve design, development, engineering, and possibly other activities described in § 120.9(a)(1). Therefore, that subsection might apply to the project; and, if it did apply, then there

would be a requirement for approval in the form of a license by the Department of State under § 124.1. But the opinion from the Department of State says that no license is required for the project activity.

As discussed above, there do not appear to be any relevant license exemptions for the project with regard to the relevant foreign students.

The opinion from the Department of State, therefore, must effectively be an opinion that either: (1) even if activities that were appropriately considered fundamental research also were considered to be defense services, no approval from the State Department would ever be required under § 124.1(a); or (2) any activity that met the requirements to be considered fundamental research would never be considered a defense service under ITAR.

In case some issue arises in which it would matter which interpretation is correct, a further look at the second interpretation seems desirable. The opinion from the Department of State presumably is a clarification of the regulations as written; as such, it would be clarifying certain wording in the ITAR regulations.

There does not appear to be any wording in § 125.4 amenable to such clarification that would lead to the resulting opinion from the Department of State. There is a clear requirement for approval to perform activities that meet the definition of defense services in § 120.9(a)(1), and none of the exceptions in § 125.4 would apply. Such approval would be required even if all of the data used in the activity were in the public domain.

ITAR § 124.1(a) also specifies that the requirements of that section apply regardless of whether technical data is to be disclosed or used in the performance of the defense services described in ITAR § 120.9(a).[20] It would not matter if the data resulted from fundamental research and was therefore considered public domain; the license requirement of § 124.1(a) would still apply.

The definition of defense services at § 120.9(a), specifically the definition of the assistance in § 120.9(a)(1), seems open to interpretation. The opinion from the Department of State could reasonably be interpreted to mean that fundamental research activities would not be considered assistance of the type described or contemplated in § 120.9(a)(1).

III. SUMMARY: GENERALITY OF THE OPINION FROM THE DEPARTMENT OF STATE

The project clearly involved technologies on the USML. There were no special ITAR rules or exceptions for the project that would exempt it from the requirements of approval to provide a defense service, other than that it was considered to be fundamental research.

Based on the above analysis of the opinion received from the Department of State, and consistent with informal feedback received by outside counsel from the Department of State, it is clear that if an activity meets the requirements under ITAR to be considered fundamental research, no license (including a TAA) is required from the Department of State to include foreign nationals from any country in the activity.

20. For the express language of this provision, see *supra* note 6.

It is not clear what specific provisions of ITAR were being interpreted by the Department of State in arriving at its opinion. The opinion could mean that if an activity is fundamental research, then: (1) it would not be considered to be a defense service; or (2) if an activity were fundamental research, no license would be required even though the activity also would be considered a defense service. There is a reasonable legal argument that the first, potentially broader interpretation, should apply.

For potential future export issues, as usual, other government regulations should also be considered, particularly the Export Administration Regulations (EAR) under the Commerce Department and the various regulations administered by the Office of Foreign Assets Control (OFAC) in the Treasury Department.