

Subject: Clarifying Implementation of the Fundamental Research Exclusion of National Security Decision Directive (NSDD) 189 in U.S. Export Control Regulations.

### Summary

The intended application of U.S. export controls on fundamental research is misunderstood or misinterpreted by those who claim that no aspect of their research is subject to U.S. export control laws and regulations by declaring the research to be “fundamental.” The assessment of whether specific research is “fundamental” requires a review process that encompasses more than a sole determination that the research has no restrictions placed on it by either the funding agency or other parties, including the researchers. Also, the Fundamental Research determination needs to be reevaluated periodically. NSDD 189 provides that no restrictions be placed on the conduct or reporting of unclassified research, *except* as provided in the performance of national security classification review, and in applicable U.S. statutes. Thereby, NSDD 189 does not exempt research information from export controls. Further, NSDD 189 is focused on the transfer of the results of Fundamental Research and does not address access to export controlled items or technology during the conduct of Fundamental Research.

### Background

NSDD 189 was signed by President Reagan and published in 1985, and has been recognized by subsequent administrations. The focus of NSDD 189 is solely on the information results of Fundamental Research. The title, purpose and policy, describe the transfer or flow of federally funded Fundamental Research information at colleges, universities, and laboratories. The definition of Fundamental Research is based on whether it is research, “the results of which ordinarily are published and shared broadly.” The Commerce Export Administration Regulations (EAR 734.3 and 734.8) and the State International Traffic in Arms Regulations (ITAR 120.11(8)) use the same definitions of Fundamental Research as NSDD 189. Most Fundamental Research information is not subject to their regulations. However, actions taken to restrict information dissemination, or access, may trigger control under these regulations. The main difference between the two export regulations is that the ITAR has a stricter definition of “Public Domain” in that information “is published” versus “is published or will be published.”

Neither the Atomic Energy Act of 1954, as amended, nor the Department of Energy export regulations (10 CFR 810) or the Nuclear Regulatory Commission export regulations (10 CFR 110) that implement the export controls in the AEA even recognize Fundamental Research or provide any exclusions from their authority for the results of research.

In May 2006 the Department of Commerce Bureau of Industry and Security (BIS) issued an announcement in the Federal Register (Vol. 71, No. 104, May 31, 2006) regarding

deemed exports in which they also clarified the relationship between the export control exclusion of NSDD 189 and the EAR:

“It is essential to distinguish the information or product (which may be in the form of a scientific 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)

The BIS announcement goes on to say:

“Further, the directive clarifies that the product that results from fundamental research is distinct from the conduct involved in the research itself.”

The BIS announcement closes with an explanation of the relationship between export controls under the EAR as they relate to NSDD 189, citing the NSDD 189 policy statement.

“The Export Administration Act (EAA) and the International Emergency Economic Powers Act (IEEPA), the principal statutes authorizing dual-use export controls, constitute applicable U.S. statutes within the meaning of NSDD–189. Pursuant to the EAA, the EAR implement U.S. government restrictions related to fundamental research when the conduct of the research involves the transfer of controlled technologies to foreign nationals. As such, there is no inconsistency between the technology controls listed in the EAR and the type of restrictions on fundamental research specified in NSDD–189.”

Between 2005 and 2010, the Department of Defense (DOD) issued three revisions to the Defense Federal Acquisition Regulation Supplement (DFARS) attempting to clarify and simplify the roles of contract officers and contractors in export compliance during the execution of DOD contracts. The issue of restrictions on publication or dissemination of results of Fundamental Research was resolved when all mention of Fundamental Research was dropped from the DFARS and addressed only in DOD Procedures, Guidance and Information (PGI) 204.7302 which reads,

“NSDD 189 does not take precedence over statutes. NSDD 189 does not exempt any research, whether basic, fundamental, or applied, from statutes that apply to export controls such as the Arms Export Control Act, the Export Administration Act of 1979, as amended, or the U.S. International Emergency Economic Powers Act, or the regulations that implement those statutes (the ITAR and the EAR). Thus, if export-controlled items are used to conduct research or are generated as

part of the research efforts, the export control laws and regulations apply to the controlled items.”

This statement is consistent with memoranda that have been issued by Under Secretaries of Defense for Acquisition, including most recently on May 24, 2011, by Ashton Carter, which states that,

“I have determined that additional clarifying guidance is required to ensure the DOD will not restrict disclosure of the results of fundamental research, as herein defined, unless such research efforts are classified for reasons of national security or as otherwise required by applicable federal statutes, regulations, or executive orders.”

and

“Program managers and performers must monitor the performance of contracts and grants for fundamental research so that appropriate action may be taken if the character of such research changes.”

In January 2012, the DOE issued Section 3.3 to the DOE Acquisition Guide, titled “Compliance with U.S. Export Control Laws, Regulations and Policies.” This new section provides guidance to DOE contracting officers on compliance with export controls, including activities related to Fundamental Research. It contains wording similar to that used by the DOD.

“NSDD-189 does not take precedence over statutes. NSDD-189 does not exempt any research, whether basic, fundamental, or applied, from statutes that apply to export controls such as the Arms Export Control Act (Reference i), the Export Administration Act (Reference g), or the U.S. International Emergency Economic Powers Act, or the regulations that implement those statutes (the ITAR (Reference j) and the EAR Acquisition Guide (Reference h)). Thus, if export-controlled items are used to conduct research or are generated as part of the research efforts, the export control laws and regulations apply to the controlled items.”

A random review of the research and export control pages of many U.S. university websites shows that there is a range of opinions as to the relationship between the Fundamental Research exclusion of NSDD 189 and U.S. export laws and regulations. The most liberal interpretation, held by many universities, allows that if there are no restrictions for proprietary or classified information placed on research by the funding agency at the outset, it is and always will be Fundamental Research and no aspects of the research are subject to export controls. The latter assumption includes allowing foreign nationals access to all equipment used in the research and related technologies, even if it is export controlled. Most of the universities taking that position attempt to preclude the applicability of export controls to Fundamental Research by issuing policies that explicitly state that they do not accept, for the most part, any funding for research that has

any restrictions other than pre-publication review (for patented or proprietary information) on it. This presents an additional problem that if the funding agency does not realize or fails to inform the university that the results may need to be restricted; the university absolves itself from making an incorrect Fundamental Research determination, as it uses only the distribution restriction criteria to determine whether it is Fundamental Research. They do not appear to set as criteria that results “ordinarily are published and shared broadly.” The latter criteria is missing from the policies and training materials provided on most university websites.

On the other hand, a few universities take a more conservative approach by informing researchers of the Fundamental Research requirements, but warning that only the results of Fundamental Research are unrestricted. Examples are even provided of foreign researchers work on a Fundamental Research project requiring a deemed export license because they need to use export-controlled equipment to perform the research. This does not necessarily impact the research maintaining its designation as being Fundamental Research and thus not being subject to export controls. It only impacts the related research activities.

### Discussion

A national security decision directive does not have the authority of U.S. laws, regulations or even executive orders. The narrow focus of NSDD 189 on the results of Fundamental Research is recognized in the closing sentence of the NSDD 189 policy statement, “No restriction 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.” This reinforces that the directive does not address other aspects of Fundamental Research and that U.S. laws and regulations supersede the directive.

Those who claim broad exclusion of Fundamental Research from export controls usually cite the opening statement of NSDD 189 and the definition of Fundamental research, but seldom cite the actual policy statement in the directive, which places the Fundamental Research exclusion on the results of the research, and recognizes that the directive has no authority over U.S. laws and regulations.

The unrestricted distribution policy that NSDD 189 describes applies only to the results of research, which under certain circumstances may also be subject to export controls. Neither NSDD 189, the EAR, nor the ITAR clearly addresses the procedures by which a Fundamental Research determination is to be made, when Fundamental Research needs to be reviewed for changes that could affect publication or exportability, or what other aspects of Fundamental Research activities may be subject to export controls. The BIS Federal Register announcement in May of 2006 and the DOD DFARS and related directives address some, but not all of the issues. The policy statement in NSDD 189 clearly recognizes the limited authority of the directive and the need to abide by U.S. laws and regulations.

Using only the determination as to whether the results of a research project, “ordinarily are published and shared broadly,” to permanently label a project as Fundamental Research; and therefore, not subject to export controls, ignores all other aspects of the research for which there may be legitimate national security concerns. It also ignores the potential for 1) the conduct of the research to evolve into areas of concern, 2) the potential for technology release from export controlled equipment, materials, or software, or 3) the potential export of export-controlled equipment, materials or technology.

There are analogies within most organizations that could be applied to the Fundamental Research review process as possible solutions to consider. Within the DOE complex, contracts to perform research are reviewed prior to being accepted by an Operations Security (OPSEC) committee. They look for potential national security (classification, unclassified-controlled information, and export control), personnel privacy, proprietary or other security concerns. Procedures and modifications to facilities and equipment may be necessary to protect sensitive equipment or information. Even if a project has no potential concerns at start-up, periodic follow-up OPSEC reviews are performed to determine if there have been any changes in the nature of the activities or potential sensitivities. There are similar analogies for safety, environmental and management procedures.

### Conclusions

Fundamental Research is identified based on explicit findings that its results would ordinarily be published and shared broadly. The Fundamental Research exclusion of NSDD 189 applies only to the results of the research. NSDD 189 does not provide exclusions from any U.S. statutes, including deemed export laws and regulations. The determination that specific research is Fundamental Research and its results are not subject to export controls, therefore, requires initial and on-going review, and can not be determined solely by whether the funding agency places restrictions on it.

The definition of Fundamental Research is very clear. What is needed are clarifications in U.S. export control regulations (EAR and ITAR), like those published by the BIS in their May 2006 Federal Register announcement, in the April 2010 changes to the DFARS, and the related DOD PGI, and in the January 2012 DOE Acquisition Guide. These should make clear which aspects of Fundamental Research are, and are not subject to export controls, and the frequency of, or conditions for the conduct of the re-review of Fundamental Research status.

Propose that EAR 734.3(b)(3)(ii) be revised to include the relevant sections of the May 2006 BIS Federal Register announcement:

### **§ 734.3 Items subject to the EAR.**

(a) Except for items excluded in paragraph (b) of this section, the following items are subject to the EAR:

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(b) The following items are not subject to the EAR:

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(3) Publicly available technology and software, except software classified under ECCN 5D002 on the Commerce Control List, that:

(i) Are already published or will be published as described in §734.7 of this part;

(ii) Arise during, or result from, fundamental research, as described in §734.8 of this part. *Note that the provisions of this section do not apply to the conduct that occurs within the context of the fundamental research. 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. Export authorization may be required if during the conduct of the research controlled technology is released to a foreign national. The product that results from fundamental research is distinct from the conduct involved in the research itself. Pursuant to the EAA, the EAR implement U.S. government restrictions related to fundamental research when the conduct of the research involves the transfer of controlled technologies to foreign nationals. If export-controlled items are used to conduct research or are generated as part of the research efforts, export control laws and regulations apply to the controlled items.*