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Summary of ITAR Dilemma - Handout from February 2001 Session

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Published Date: 02/08/2001

COGR SESSION ON ITAR AND EXPORT CONTROLS – FEBRUARY 8, 2001

SUMMARY OF THE I.T.A.R. DILEMMA

"OPENNESS IN RESEARCH" POLICIES

Based on the primacy of the "openness in research" principle, a number of universities have written formal policies that preclude the acceptance of certain restrictions on the conduct and dissemination of fundamental research.

NATIONAL SECURITY DECISION DIRECTIVE 189:

“National Policy on the Transfer of Scientific, Technical and Engineering Information”
(President Reagan, 1985, released by the National Security Council pursuant to Executive Order 12356)

NSDD 189 defines “fundamental research” as the conduct of basic scientific and engineering research, the results of which are to be published or otherwise made available to the interested scientific community. It also establishes that fundamental research conducted by U.S. academies in basic science and engineering is to be excluded from the International Traffic in Arms Regulation (ITAR), and provides that academic research or technological developments truly giving rise to national security concerns are to be handled by resort to the classification process rather than through export control, except where otherwise provided by statute. The burden is on the government to review its proposals and projects for classifiable portions before release.

THE LEGISLATION:

In the wake of the Cox Report and the Los Alamos spying allegations, Congress on Oct.17, 1998, legislatively reiterated the importance of the Missile Technology Control Regime. "...due to the sensitivity of technologies involved, it is in the national security interests of the United States that United States satellites and related items be subject to the same export controls that apply...to munitions." That Act went on to state that all satellites and related items that were on the Commerce Department dual-use list as of 10/17/98 were transferred to State Department jurisdiction and made subject to the International Traffic in Arms Regulation (ITAR). The State Department issued its conforming regulations in March 1999.

THE RELEVANT ITAR PROVISIONS:

As a general proposition, a “deemed export” (one requiring a license and imposing access restrictions) exists whenever a foreign national on U.S. soil may be exposed to or be able to access

in any manner an export-controlled item or export-controlled information. However, items and information falling within the “fundamental research” exclusion are not export controlled, so the “deemed export” concept will not be brought to bear.

With regard to satellites and related equipment, the changes to the implementing State Department regulations listed, for the first time, “experimental, scientific, and research” satellites, which were not called out as such on the Commerce Department’s Dual Use List as of the date of the relevant legislation. The changed regulations are summarized below (bear in mind that work that is characterized as “Fundamental Research” is not subject to export controls):

ITAR 120.1 states that the purpose of ITAR is to control export/import of defense articles and services;

ITAR 120.2 points to the Munitions List established effectively in 1984 as controlling – this list includes satellites generally (see ITAR 121);

ITAR 120.3 establishes that anything that is to be added to the Munitions List after 1984 must meet the criteria set out for “defense articles” or “defense services” – that this, they must be items designed or intended for military use and activities intended to support military use, which do not have a preponderant civilian use or civilian performance equivalence;

ITAR 120.11 establishes an exclusion from ITAR controls for “public domain” information, which expressly includes fundamental research, defined there as research in basic science and engineering that is broadly disseminated to the scientific community;

ITAR121.1, XV, (Munitions List - Spacecraft Systems and Associated Equipment), provides at subparagraph (a) that scientific, research, and experimental satellites are to be deemed Significant Military Equipment (SME) **if** intended for use by foreign armed services [*SME is a designation which may make anything subject to ITAR 120.7 based on “substantial military utility” or capability*].

121.1, XV, (e) includes satellite “payload” as Associated Equipment subject to ITAR.

121.1(f)...[*last sentence of the first paragraph*] states “Further, technical data directly related to the manufacture or production of all spacecraft, notwithstanding the nature of the intended end use (e.g., even where the hardware is not SME), is designated SME.”

ITAR 120.10 defines technical data generally as information regarding a “Defense Article” (see above) but excludes information in the public domain (e.g., related to fundamental research).

ITAR 120.11 excludes fundamental research from export on the basis that it is within the “Public Domain.”

THE PROBLEM - DIRECT CONFLICT WITH UNIVERSITY POLICY

Universities are being told by the various launch and satellite manufacturers on whom they rely that, for example, any "form, fit, function" data that they may need to share with the researchers may constitute export-controlled SME. Consequently, if it is to be shared with foreign collaborators or students, it becomes subject to all the strictures normally applicable to a "deemed export." That means any foreign collaborators may be denied access and participation.

Adding to the confusion, at least one relevant government agency has opined that the very scientific equipment, experimental instrument, measuring device, or research apparatus that was developed and fabricated by a university to conduct its research (the scientific payload) shall be subject to ITAR rather than being treated as fundamental research. There seem to be two steps to reaching this conclusion. First, the research tool is export controlled because it is not a research "result" (this ignores the fact that NSDD 189 protects the very "conduct" of fundamental research) - rather, it is a piece of hardware and, they assert, only the written research results qualify for exclusion from ITAR as "fundamental research." Second, this hardware, either because it is a satellite or it relies upon a satellite, is "satellite-related" and thus part of a spacecraft system and spacecraft systems are *per se* listed on the ITAR munitions list.

Based on this, affected contractors as well as federal funding agencies are insisting that an export license be obtained before U.S. researchers may disclose to a foreign student or collaborator contractor-provided information such as where to place bolt holes on the scientific apparatus, what kinds of connectors to use, or what size it needs to be to ensure proper seating in and compatibility with the satellite. And even if the apparatus has not flight function *per se*, the government appears to be treating these research-specific one-of-a-kind devices as export-controlled if it will be placed on a satellite (payload), ignoring the fact that fundamental research is, from the outset, excluded from export controls.

This interpretation treats universities basic science and engineering activities as "export controlled" rather than as fundamental research that would be excluded from export controls, and brings to bear on our collaborations the "deemed export" concept (where a foreign national researcher or student is denied visual or other access to export-controlled data while on our soil).

Openness in fundamental research is a critical element of most universities' teaching and basic research. Integral to openness, and just as critical, is participation by an international array of faculty, students, and collaborators. Those with comparable education, experience, and skills earned abroad bring those accomplishments to U.S. academies in order to further their studies or to further the studies of our students. The result is an exchange of ideas and concepts among peers of equal intellectual strength; these ideas and

concepts are challenged, scrutinized, encouraged, criticized and honed. Nowhere is this more apparent than in mathematics, the hard sciences, engineering, and related disciplines. Innovation and technological advances are the results of this rich mix of lively minds, a variety of experiences, and an open atmosphere. No price can be placed upon the value of such an environment.

Universities that accede, through contract or otherwise, to this expanded ITAR jurisdiction over their space-based activities will be confronted with three immediate adverse effects:

1. Some students will have to be excluded, arbitrarily, from certain studies - not only does this make country of origin or citizenship a new criterion for admission, the shifting list of "countries of concern" will make continued studies uncertain even if admission may initially be granted;
2. International collaborations, increasingly important as science and technology become more global, will be impeded (at best);
3. An additional academic bureaucracy to implement and police the new policy and attendant restrictions will have to be established - such a bureaucracy will add not value to the educational process but rather will be a surcharge upon research, with only deleterious effect;
4. The mere acceptance of export restrictions and the consequent obtaining of an ITAR export license may operate to erode entirely the "fundamental research" character of the work and make way for ITAR application in areas not satellite-related.

From the current federal approach may flow a cascade of effects adverse to the vitality and viability of U.S. universities generally. As stated by Neal Lane in an appearance on this issue before the National Academy of Sciences in the Fall of 2000, national security is reliant on universities' fundamental research; fundamental research by its very nature is "open;" and this open research is in fact global. Assuming that "openness in research" doesn't prevail and the "deemed export" concept is brought to bear, foreign students and collaborators may be barred from significant research efforts. If important courses are consequently eliminated, for example, as class sizes and research projects diminish due to restrictions on participation by foreigners, U.S. students will go abroad, where they can obtain the full complement of courses in their disciplines. Their foreign peers, unable to complete their studies or fully participate in research here, may remain abroad. These impacts alone are pernicious enough, but perhaps of gravest concern is the potential for further diminishment of our academies' ability to provide U.S. graduates in rocketry, satellite technology, and similar fields that draw upon math, the hard sciences, and engineering. The best and brightest American minds in any discipline reliant on space-based research (for example, aeronautics, astrophysics, and environmental and biological sciences related to space exploration) may end up developing and contributing their research talents elsewhere. Thus there will be fewer and fewer of these talented U.S. citizens in domestic academies to engage in federally funded research, which may ultimately have adverse consequences for national security interests.

