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Export Controls and Research Universities: Challenges and Compliance

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Export Controls: An Overview

- The Evolving Context for Export Controls: Why they now have emerged as a major public policy and regulatory compliance challenge for academic research
- Export Controls 101: The Essential Framework and Issues for Research Universities
- The Post-9/11 Regulatory Environment: Five Recent Export Control Regulatory Developments Complicating the Policy and Compliance Landscape
- Compliance: The Need to Develop an Effective Institutional Export Control Compliance Program and to Educate the University Research Community

U.S. Export Controls – Coverage and Basic Principles

- Export controls apply to goods, material, tests, software and technology (includes information and technical data)
- Under U.S. law, exporting is a privilege and not a right
- A wide-range of high-technology items, and associated technologies, are subject to U.S. export controls
- An increasing amount of academic research is covered
- Technology transfers in the U.S. to certain foreign nationals are considered exports (“deemed exports”)
- Three principal export control regimes – DOC/EAR; State/ITAR; Treasury/OFAC
- Export controls and trade sanctions have multiple goals that often conflict

What Constitutes an Export under the EAR?

- Physical Exports – a shipment or transmission of an EAR-controlled item from the U.S. to a foreign country
- Re-Exports –
 - A shipment or transmission of a U.S.-origin item or technology from one foreign country to another foreign country
 - Release of technology or software subject to the EAR to a foreign national outside the United States
 - International conferences/colloquia
 - International labs
 - U.S. export control jurisdiction extends to all U.S.-origin items and technology wherever they are located
- Deemed Exports

What's a "Deemed Export"?

- "Deemed exports" (1994) include "release" or transfer of technology or source code to a foreign national within the U.S. (FNUS) – treated same as export to that country
 - "Release" includes: (1) visual inspections; (2) oral exchanges; (3) emails; and (4) use abroad of information acquired in U.S.
 - "Countries of concern" = China, Russia, India, Pakistan, Israel
- Residency status important: (1) permanent residents (green card holders) and (2) "protected immigrants" have same right to controlled information as U.S. citizen
- Key point – Unless exemption applies, any transfer of export-controlled technology to a non-permanent resident FNUS is subject to U.S. jurisdiction and may require the prior approval of U.S. government (license)
- Principal current focus – students, post-docs and visiting researchers/scholars

The Growing Concern with University Research – A Confluence of Factors

- Changing calculus of national security – and questions about the ability of the existing export control laws/regulations to meet today's challenges
- Growing concern with research universities as a focal point for U.S. government security concerns (openness; access; international; hub of the global knowledge commons)
- Increasing intersection of cutting-edge science, technology and engineering research with national security, foreign policy and homeland security in many fields

The Growing Concern with University Research – A Confluence of Factors

- Globalization of the American research university and the internationalization of S&T capabilities
- Shifts in cutting-edge research (global in scope, multidisciplinary, challenges of “dual use” research, emergence of “big science” and larger projects, creation of international centers and collaborations, blurring boundaries in categorizing research)
- Cumulative impact and chilling effect of intersection of export controls and post-9/11 regulatory framework as scope of national/homeland security restrictions broadens
 - Patriot Act Select Agent regs are not coextensive with export controls
 - Linkage of foreign visa issues and Technology Alert List/MANTIS
 - “Sensitive but unclassified” proposals

The Growing Concern with University Research – A Confluence of Factors

- Trend toward “regulation by contract” and the problem of “troublesome clauses”
 - FR exemption lost if institute accepts any contractual terms concerning: (1) foreign nationals; (2) publications; or (3) access and dissemination controls
 - New federal funding linked to export controls or government security controls (e.g, bioterrorism, cybersecurity, homeland security)
- China – Emergence of China and other “countries of concern” as security concerns v. those countries as source of much of the global ST&E talent pool on which American technology/security depend

The Growing Concern with University Research – A Confluence of Factors

- The Two Cultures and the Madey v. Duke problems. Growing perception among security community that:
 - Academics “are not serious” about security compliance; and
 - Research universities now are in the “business” of research and are misusing the FR exemption – especially for development research and certain sponsored-research projects
- It’s “déjà vu all over again”. These issues are not emerging on a blank slate and are viewed, in part, through the prism of past experience

The Growing Concern with University Research – The 2004 Inspector Generals’ Reports as a Catalyst

- Interagency export control review of research universities, research centers and national labs
- Three, key public reports – DOC, DoD, Interagency
 - Highlight deemed export compliance problems at universities
 - Created a major controversy about several topics, including
 - Transfers related to controlled “use” technology and equipment FR
 - Interpretation of national origin
 - New export control requirements for DoD funding
- Call into question the FR exemption and other exceptions most used by academic researchers
- Urge significantly expanded university/institute compliance efforts and controls on deemed exports

Export Controls 101 – Agency Responsibilities

- Commerce Department: “Dual-Use” Items (the Export Administration Regulations or “EAR”)
 - Licensing: Bureau of Industry and Security (“BIS”)
- State Department: “Munitions”/USML (the International Traffic in Arms Regulations or “ITAR”)
 - Licensing: Directorate of Defense Trade Controls (“DTC”)
- Defense Department: active role in ITAR/EAR decisions
 - Licensing: Defense Trade Security Administration (“DTSA”)
- Treasury Department: Trade Sanctions
 - Licensing: Office of Foreign Assets Control (“OFAC”)

Export Controls 101 – EAR/ Commerce Dept.

- Covers dual-use items: 10 Commerce Control List (CCL) categories of different technologies covering equipment, tests, materials, software and technology (includes information, technical data and technical assistance)
- Regulates items designed for commercial purpose but that can have military or security applications (e.g., computers, pathogens, test equipment, materials)
- Provides certain General Prohibitions for all exports
- Also covers “re-export” of “U.S.-origin” items outside United States because U.S. legal jurisdiction follows the item or technology worldwide – wherever it is located

Export Controls 101 – Priority Areas for University Concern and Attention by Discipline

- Electrical engineering, integrated circuits, encrypted software, advanced telecommunications
- Applied physics – ex. lasers and other equipment
- Nanotechnology and new materials – ex. composites and ceramics
- Life Sciences and Chemicals (including academic medical centers and health sciences centers)
- Optics and imaging – ex., UA Optical Sciences Center
- Space-related technologies for LPL (ITAR exclusive jurisdiction)

Export Controls 101 -- Key Areas for University Compliance Focus

- Deemed exports – research projects with foreign nationals on campus
- Sponsored research contracts, terms and conditions –
 - Corporate and universities subcontracts
 - Master sponsored research agreements (corporate and govt.)
 - Federal government funding
 - Contractual terms invalidating the FR exemption
- International research collaborations, centers and projects
- Special attention on ITAR-related areas such as LPL and defense-related research

Export Controls 101 – CCL and Life Sciences

- EAR controls are technology-specific, country-specific and, sometimes, entity- or person-specific
- All equipment, chemicals, reagents, toxins/pathogens or microorganisms must be reviewed by ECCN – exs.
 - Group 1: Materials, Chemicals, Microorganisms and Toxins (79 pages)
 - Group 2: Materials processing (63 pages)
 - Equipment includes items such as fermenters, centrifugal separation, cross-flow filtration, freeze drying equipment, etc.
 - Covers certain human, animal and plant materials and equipment including certain genetically modified material
- Each ECCN contains: (1) reasons for control; (2) cost thresholds; (3) units (volume or mass); and (4) related controls
- Also controls on certain computers, software, servers and IT increasingly used in life sciences research
- And don't forget MTA exchanges!

Export Controls 101 – ITAR/ State Dept.

- Covers military items (“munitions” or “defense articles”); 22 categories
- Regulates goods and technology designed for military purposes (e.g., not only submarines, fighter aircraft parts, nerve agent defensive equipment but also new areas such as sensors, nanotechnology, bioterrorism, specially designed computer systems)
- Includes all space-related technology and research – Category XV, Spacecraft Systems and Associated Equipment
- Creates “defense articles” (includes tech data which encompasses software unlike EAR) and “defense services” (certain information to be exported may be controlled even if in public domain) related to covered articles
- Covers some university research as “defense services” (ex. information about the design, production or manufacture of subsystems and prototypes used in defense articles) even though research may not appear to focus on the defense articles

Export Controls 101 – OFAC/ Treasury Dept.

- U.S. economic sanctions focus on the transaction with the end-use or country rather than the technology
- OFAC administers embargoes
 - Prohibitions on trade with countries such as Iran or Cuba
 - Travel restrictions – e.g., Cuba
 - Limitations on activities with certain countries/non-state actors
- OFAC prohibits payments or providing “value” to nationals of sanctioned countries or specified entities/persons even if no country sanctions
- OFAC prohibitions are separate from ITAR/EAR
 - Sanctions/requirements may differ
 - Multiple lists must be checked for EAR/OFAC/ITAR compliance

Export Controls 101 --Penalties for Noncompliance

- Individual and Institutional Liability
- State Department (ITAR)
 - Criminal violations: up to \$1 million per violation; up to 10 years
 - Civil penalties: seizure and forfeiture of the articles ; revocation of exporting privileges; fines up to \$500K per violation
- Commerce Department (EAR)
 - Criminal violations: \$50K-\$1million or five times the value of the export, whichever is greater per violation; up to 10 years jail
 - Civil penalties: loss of export privileges, fines \$10K-\$120K each
 - Most export control acts/omissions = 3 violations for each
 - (1) The act or omission that constitutes a violation
 - (2) Recordkeeping violation
 - (3) False statement (failure to include certain information with export documentation)

Export Controls 101 -- Penalties for Noncompliance

- Loss of “exporting” privileges can cripple int’l activities, collaborations and “deemed exports” of the university
- Puts any federal funding at risk – for the institution and for the PI
- Generally results in draconian compliance obligations and reporting requirements
- Public relations and media attention; settlements public
- OFAC also imposes criminal and civil penalties
 - Ex., UCLA fined for co-sponsoring a research seminar in Iran
 - Same act can constitute violations of both ITAR/EAR and OFAC

University Research – EAR Coverage and Key Exemptions

- Growing amount of university research is subject to export controls but most does not require a license or the prior approval of the U.S. government because:
 - Publicly available/public domain
 - Fundamental Research (FR) “exemption” and NSDD -189
 - Educational Information exception
 - Patent applications
 - Bona Fide Employee Exemption (ITAR) – disclosures of unclassified technical data to full-time employees in U.S. provided written notification about re-export requirements
 - EAR 99 – “Subject to the EAR” but no prior approval required because item falls below an applicable CCL/ECCN threshold (value, volume, units or country coverage)

Public Domain – Outside Scope of Export Controls

- Broadest exclusion under EAR and ITAR – it allows deemed exports or exports without controls, e.g.
 - libraries open to public; unrestricted subscriptions; published patents
 - generally accessible free websites without knowledge
 - published patents
 - conferences, seminars in the United States accessible to public for a reasonable fee and where notes can be taken (ITAR) –or also abroad if EAR
 - Note: closed conferences do not qualify under either EAR or ITAR
- Preconditions
 - No equipment or encrypted software involved
 - No reason to believe information will be used for WMD
 - U.S. government has not imposed any access and dissemination controls as a funding condition
 - No side deals with PIs

Fundamental Research Exemption and NSDD-189

- The Fundamental Research exclusion provides the basis for exempting most on-campus university research from export control licensing requirements
- EAR FR exemption covers: (1) information (not items); (2) resulting from “basic and applied research in science and engineering; (3) at an “accredited institution of higher education” (EAR) or “higher learning” (ITAR); (4) “located in the United States” ; (5) that is “ordinarily published and shared broadly within the scientific community”
- FR exemption available also under ITAR but its FR exemption is more restrictive –
 - Research must occur “at accredited institutions of higher learning in the United States”
 - Information must be published (?)

Fundamental Research Exemption - EAR

- FR exemption, however, is invalidated if the university or the PI accepts any of the following conditions:
 - (1) prepublication reviews
 - (2) foreign national controls
 - (3) access and dissemination controls; or
 - (4) national security controls
 - But brief publication delay permitted: (a) to ensure no inadvertent release or proprietary information from a sponsor or others; or (b) to decide whether to patent
 - A few technologies ineligible for FR exemption (e.g., advanced encryption)

Educational Information Exception

- Information taught in catalog-listed classes, and released in associated teaching laboratories, at accredited institutions of higher learning are exempt export licensing while the same information transferred outside class may require a license
 - IG notes asymmetries between the same information in different university settings and between university/corporate setting
 - For example, a professor in class can disclose export-controlled technology and information to a Chinese national but if she is not his student and he releases the same information to her in his office hours then a license may be required

Six Key Developments Today Affecting University Compliance Programs

- The applicability of the FR exemption to the transfer of controlled “use” technologies associated with research equipment, tools or materials used in FR
- Proposed DoD Regulation Concerning Export-Controlled Information, new DFARs, and Export Control Compliance programs for all DoD grants/solicitations
- China – (1) catch-all provision; and (2) overarching Administration review of Chinese export controls
- New export control reviews re nanotech and biotech
- “Sensitive but unclassified” reviews and proposals
- New focus on university outreach and compliance

IG Reports – Transfers of Controlled “Use” Technologies Associated with Equipment/Tools in FR

- **OIG – FR exemption does not extend to the transfer of controlled “use” technologies associated with research equipment, tools or materials “used” in FR**
 - Either (a) may need a license for transfer even if all the research qualifies for the FR exemption or (b) must exclude FNUS from certain FR research at the institute
 - EAR definition of “use” includes operation, maintenance and repair – as well as modifications. Does not include “on-off”
 - Major sea change in university/institute interpretations – resulting in uncertainty, new due diligence obligations and increased costs
 - NSDD-189 and stated Administration policy
- **DOC – Fed.Reg. ANRP (3/28/05) + Comments (6/27/05)**

IG Reports – Compliance Impacts of the OIG “Use” Proposal

- Controlled “use” equipment in a number of cutting-edge fields – e.g., nanotechnology, biological equipment, applied physics/ee, materials processing and sensors – likely requires licenses for “countries of concern”
- “AT” controls on broad range of equipment
- A major administrative burden to catalogue, classify under the CCL, assess for licensing, and assure an effective compliance programs for all pieces of equipment/materials >\$5K, even if only few licenses
- Current university estimates: \$1.5-\$5 million extra per year “over and above” current compliance efforts
- Liability risk management issues and high uncertainty

IG Reports – Country of Origin Determinations

- Proposed change – “Latest in time” country of residency or citizenship should be abandoned for EAR country of origin tests
 - Current – If post-doc is UK permanent resident but Chinese citizen, he or she is treated as a UK person
 - Proposed – Amend EAR to require “deemed export” licenses based on country of birth regardless of more recent citizenship/permanent resident status
- DOC – recently signaled it does not plan to change rules but it is not clear if other U.S. agencies will agree
- For future – IGs recommend no longer treating “green card” holders the same as U.S. citizens because they question the loyalty and commitment to U.S. security of those who are not U.S. citizens

IG Reports – Go Well Beyond Current Two DOC Issues and Question Academic Licensing Exceptions

- Concludes that EAR exceptions most used by academic research community should be reconsidered because they “unduly threaten national security by eliminating a large number of [FNUS] from export licensing....”
- Favors introduction of “sensitive but unclassified” controls
- Supports ongoing efforts to decide whether certain information should not be published for security reasons
- Expresses concern that “back end” measures such as publication restrictions come too late

IG Reports – Fundamental Research Exemption Questioned

- Concludes that research “intended” for publication should not qualify for FR exemption
- NSDD-189 may remain Administration policy but it is too vague and unclear for continued application in current security environment
- Academic research is overusing FR exemption: increasing amount of AIRI/university research is “development” outside OMB or DoD FR categories
- Questions whether editorial reviews (such as new policy by peer reviewed publishers in life sciences) invalidate FR exemption as a pre-publication control

DoD Proposed Rule and New DFAR: Export-Controlled Information and Technology

- DoD proposed amending DFARs to respond to DoD IG Report (July 2005)
- Adds new ECI Clause for all DoD solicitations and contracts covering:
 - DoD-funded R&D, or
 - Services or supplies that may involve use/generation of ECI
- Redefines key terms as used in export controls
 - Export = “access to” ECI, rather than “transfer or release”
 - Coverage = “foreign nationals” or “foreign persons”, rather than foreign persons (i.e., would include all green card holders)

DoD Proposed Rule and New DFAR: Export-Controlled Information and Technology

- Imposes new contractual requirements on DoD contractors besides complying with all applicable export control laws and regs
 - Maintain an effective export compliance program, including:
 - Access control plan with “unique badging requirements” for all foreign nationals/foreign persons and “segregated work areas” for ECI
 - No access by foreign person/foreign national to ECI without “an export license, other authorization, or exemption”
 - Requires training for all employees “who have access to export-controlled information and technology”
- Mandates “flow-down” of this DFAR clause in all subcontracts, even if university subcontract only involves fundamental research

Principal Concerns Expressed about the DoD Proposed Rule – 100+ comments

- Overly prescriptive, e.g.,
 - Badging and segregated work areas – based on DoD IG Report recommendation and NISP
 - University ACP more stringent than NISPOM requirements for handling of classified information at “cleared contractor facilities”
 - Even NISPOM allows “other security measures, as appropriate”
 - Not workable in academic research settings/open campuses
- Expands controls in a number of ways, not simply a “clarification” of existing ones
- Premature -- wait for outcome of DOC/BIS and NSTC discussion

Principal Concerns Expressed about the DoD Proposed Rule – 100+ comments

- Why?
 - What’s the real nature and extent of the problem the DFAR addresses?
 - Why aren’t existing export control laws and regs sufficient?
- “Contractual trumping of national policy” concerning Fundamental Research Exemption (FRE)
 - NSDD-189
 - DoD Instr. No. 5230.27: The mechanism for control of information generated by DoD-funded FR at universities and non-governmental academic labs is classification
 - Multiple linkages of DoD controls with FRE (including invalidation or effective elimination of FR exclusion if DoD-financed)

New Export Control Requirements For China

- Special application of military “catch-all” provision to all items on CCL
- Administration review of China export control policy for all dual-use items that might have a military/security use
- Implementation of new rule aimed at withholding items that could be used to strengthen the military power of countries subject to an arms embargo – new licenses for China

Growing Activity Related to “Sensitive But Unclassified” Information and Transfers

- Post 9/11 focal points – Andrew Card memo (2002)
- Restrictions on access to information, or restrictions on transfers and handling information that doesn't warrant classification
- Increasing discussion about using SBU clauses as an alternative or complement to export controls; implications for FR exemption availability
- Extensive, current interagency/Congressional review – 56 different SBU designations, 16 at DOE alone
 - DHS/OMB review ongoing
 - Congressional Research Service report – March 2006
 - GAO Report – April 2006
 - National Security Archive review
 - Congressional hearings

Export Control Compliance Programs – “No One Size Fits All”

- DOC has made clear that enhanced university/institute export control compliance is “non-negotiable”
- Senior administration policy statement and support
- Comprehensive approach (coordinated with “empowered official”, review procedures, and “champions”)
- Extensive outreach and education for key players
- Develop appropriate materials, FAQs and website
- Effort needs to be “user friendly” to assure compliance
- Requires ongoing compliance reviews and updates
- Checklists and review procedures (including reviews of various denial lists) are important elements of program