



UNIVERSITY OF CENTRAL FLORIDA
EXPORT COMPLIANCE



FLORIDA RESEARCH ADMINISTRATION CONFERENCE

IDENTIFICATION OF EXPORT CONTROL ISSUES IN
SPONSORED PROGRAMS

MICHAEL MILLER



Module 1 Goals

BY THE END OF THIS MODULE YOU SHOULD BE ABLE TO:

- Identify the primary export control laws and regulations
- Distinguish “fundamental research” from other types of research subject to export controls
- Identify indicators in pre and post award activities that are red flags
- Know the primary methods to manage identified issues

You need to know more about export controls if

YOUR INSTITUTION WILL ENGAGE IN AN ACTIVITY THAT:

- Is subject to national security or proprietary restrictions
- Has been identified by the sponsor or in the research agreement as “export controlled”
- Might involve the research of subjects or technologies or use equipment identified on the ITAR’s U.S. Munitions List (USML) or the EAR’s Commerce Control List (CCL)
- Involves exports outside the U.S. that could include
 - The physical shipment or hand-carrying of certain items such as equipment and software found (controlled) on the USML or CCL
 - The electronic, visual or verbal transmission of technical data and technology related to items found (controlled) on the USML or CCL
- Involves the export or disclosure within the U.S. (visual, verbal, electronic, or physical) of certain technical data, technology, software, equipment, or other items to a foreign person

YOU INSTITUTION WILL ENGAGE IN AN ACTIVITY THAT:

- Performs research or a service for or in collaboration with a foreign researcher, student, or entity, wherever located
- Involves working with other researchers who perform export controlled research
- Involves providing “something of value” or financial transactions with certain sanctioned entities or countries.

What are export controls as related to research?

Certain military and non-military technologies, related technical data and know-how may be subject to federal restriction that prohibit transfer of technology or technical knowledge to foreign persons.

These requirements are codified in a variety of federal regulations collectively referred to as "export controls."

13 federal agencies administer export controls.

Export controls may restrict:

- research on certain technologies
- performing research for the benefit of a foreign person,
- foreign person access to ongoing research activities and results, and
- access to certain equipment, data, methods, IP, know-how, lab notebooks, or anything related to the research.

Primary Regulatory Authorities Impacting Research

State



International
Traffic in Arms
Regulations

“ITAR”



Commerce



Export
Administration
Regulations

“EAR”



Treasury



Foreign Asset
Control
Regulations

“OFAC”



Energy



Department of
Energy
Acquisition Regs.

“DEAR”



Best Practice

Be aware that there are multiple regulations that can apply to multiple Colleges, Departments and various activities

Academic Exemptions

Certain higher educational activities may be exempt from certain export regulations

Publicly Available (EAR)

- Published information (734.7)
- Fundamental research (734.8)
 - University, federal agencies, corporate and research based elsewhere
- Educational information (734.9)
- Patent applications (734.10)

Public Domain (ITAR)

- Marketing information on function or purpose
- Published, available at news stand, libraries, conference, meeting, seminar, trade show exhibition, public patent office
- Approved for public release
- Fundamental research

University Fundamental Research, EAR 734.8

- Basic and applied research in science and engineering
- Accredited U.S. institution of higher learning
- Resulting information is ordinarily published shared broadly within the scientific community.
- Distinguished from **proprietary research and from industrial development, design and production, and product utilization**, the results of which are ordinarily restricted for **proprietary** reasons or specific **national security** reasons.



Fundamental Research, ITAR 120.11(a)(8)

8)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:

- 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.



Nullification of Fundamental Research

Activities do not meet the legal prongs to qualify for “fundamental research” if:

- You agree to national security restrictions
- Agreement requires sponsor approval to publish
 - “Review” is allowable, “Approval” is not
- There is a transfer of “defense services”
- Contractual or verbal restrictions
- Facility access restriction
- Access to a military defense article
- Distribution limitation on research results
- Foreign national participation restriction



Restricted research means you are entrusted!

What does being subject to export controls really mean?

- 1. Something about the project is not public or cannot be made public**
- 2. Whatever is not public is also identified on a control list**
- 3. Technologies on the control list are “off limits” to foreign persons**



Best Practice

University activities are subject to all US export laws & regulations.

If you export, you assume the risks associated with the applicable export control regime.

Know which regulation apply under what circumstances.

Academic Enforcement

Includes economic espionage and trade theft

- 2014, U. of Michigan medical researcher prosecuted for sending MRI coil to Iran. Assembly of coils that generates radio signal to permit imaging of part of body in the coil
- 2013, NYU researchers bribed by CN Govt for NIH MRI grant tech
- 2013, UMASS Lowell CAR shipped EAR99 atmospheric device to Pakistan Space & Upper Atmosphere Rsch Comm. \$100k fine, fine suspended
- 2010, Perm Res. researcher stole Dow pesticide secret for Hunan Normal Univ. student to publish journal. 7 years, 3 mon.
- 2006, Roth AECA violation . 4 years, +2 prob; bankrupt; health declining, wheelchair bound – sentence reduced by 6 months.
- 2004, Texas Tech Prof. imported plague bacteria. 2 years, \$50k civil / \$250k criminal
- 1998, FAU Prof export thermal camera to Syria. Pretrial diversion

Controlled Technologies Lists



Arms Export Control Act

- International Traffic in Arms Regulations ("ITAR") , 22 CFR Parts 120 – 130
- U.S. Munitions List ("USML")



Export Administration Act

- Export Administration Regulations ("EAR") , 15 CFR Parts 730 - 744
- Commerce Control List ("CCL")

USML

- Category I:** Firearms, Close Assault Weapons and Combat Shotguns
- Category II:** Guns and Armament
- Category III:** Ammunition / Ordnance
- Category IV:** Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs and Mines
- Category V:** Explosives and Energetic Materials, Propellants, Incendiary Agents and Their Constituents
- Category VI:** Surface Vessels of War and Special Naval Equipment
- Category VII:** Ground Vehicles
- Category VIII:** Aircraft and Related Articles
- Category IX:** Military Training Equipment and Training
- Category X:** Protective Personnel Equipment and Shelters
- Category XI:** Military Electronics
- Category XII:** Fire Control, Range Finder, Optical and Guidance and Control Equipment
- Category XIII:** Materials and Miscellaneous Articles
- Category XIV:** Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment
- Category XV:** Spacecraft Systems and Associated Equipment
- Category XVI:** Nuclear Weapons, Design and Testing Related Items
- Category XVII:** Classified Articles, Technical Data and Defense Services Not Otherwise Enumerated
- Category XVIII:** Direct Energy Weapons
- Category XIX:** Gas Turbine Engines and Associated Equipment
- Category XX:** Submersible Vessels and Related Articles
- Category XXI:** Articles, Technical Data and Defense Services Not Otherwise Enumerated





- Category 0:** Nuclear Materials, Facilities and Equipment & Miscellaneous
- Category 1:** Materials, Chemicals, Microorganisms and Toxins
- Category 2:** Material Processing
- Category 3:** Electronics
- Category 4:** Computers
- Category 5:** Telecommunications and Information Security
- Category 6:** Sensors and Lasers
- Category 7:** Navigation and Avionics
- Category 8:** Marine
- Category 9:** Propulsion Systems, Space Vehicles and Related Equipment



CCL ECCN Examples

- **1A004** Detection equipment for nuclear, chem, bio
- **1A995** Protection/detection kits used in mining, quarrying, agriculture, pharmaceutical, medical.
- **2A984** Equipment for screening bags, people, documents, and possibly ground penetrating radar, if operating from 30 to 2000 GHz (2D982 software for GPR)
- **2A994** Generators
- **2B351** Toxic gas monitoring sensors (2D351 software for sensors)
- **2B352** Biological material equipment (fermenters, centrifugal separator, flow filtration, steam sterilization, protection suits, safety cabinets, spray booms, fogging systems)
- **3A002** Video tape recorders, recording instruments, signal analyzers
- **3A233** Mass Spectrometers
- **3A999** Flash X-ray machines, Chromatography & Spectrometry instruments

CCL ECCN Examples

- **4A003** Computers w/ multiple processors
- **4A994** Computers w/ single processor
- **5A991** cell phones
- **5A992** Ipad & Iphone
- **5D002** Certain Software
- **5D992** Most commercial COTS software (Microsoft products)
- **6A003** Cameras, (high speed or imaging & streak cameras)
- **6A006** Magnetometers, gradiometers, electric field sensors
- **6A007** Gravity Meters
- **6A203** All other cameras
- **7A994** GPS units, direction finding-equipment
- **7A105** Satellite GPS units

CCL ECCN Examples

- **8A002** Underwater robots & autonomous underwater vehicles
- **8A018** Marine boats w/ diesel engines
- **9A012** Unmanned air vehicles
- **9A012** All other UAV's
- **9E003** Turbine Technology
- **EAR99** Ground Penetrating Radar

Deemed Export

- Development
- Production
- Use
 - Maintenance, repair, operation, installation, overhaul, refurbishment

Best Practice

- 1. Most of what you are doing is “operating”, not “using”**
- 2. Establish a philosophy of no maintenance, repair or overhaul! If you do this, then you cannot exceed the “use” threshold.**
- 3. Restricted if you exceed the development, production or use threshold for something on the CCL.**
- 4. Be careful of development, especially if the technology is proprietary.**
- 5. Be careful of user manuals that accompany equipment. They contain “use” information. Also, be careful of info provided by sponsors.**
- 6. If proprietary, and on the CCL, then it is subject to the control requirements specified on the ECCN**
- 7. Qualify all research as Fundamental Research.**

Right to Research vs. Restricted Research

Management determination of “Right to Research” vs. acceptance of export-restricted research and foreign national exclusions.

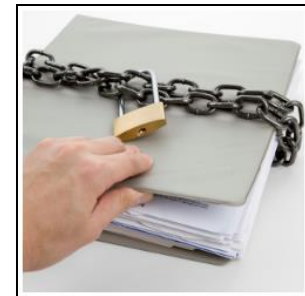
There is no one-size-fits-all

Right to Research

Certain universities have academic freedom requirements and will only perform “fundamental research” – still required to comply w/ export regulations

Restricted Research

Restricted research institutions must implement control mechanisms. Must register with DDTC if you intend to export, utilize exemptions, provide defense services, etc



Who is Involved in Export Compliance?

Human Resources
Visa Office
Admissions Office
International Programs Office
Sponsored Programs
Purchasing
Environmental Health & Safety
General Counsel
Finance & Accounting
Travel
Shipping
Property
Export Control

**Integrated
effort
regardless of
management
approach**



Sponsored Areas where you encounter export issues

SPONSORED PROGRAMS

- Military Proposals
- Funded Contracts, Grants
- SBIR, STTR & DoD/NASA Flow-thru
- Certain Non-sponsored activities

VISA APPLICANTS & VISITORS

- H-1B
- J-1 / denied entities
- B “Ghosts”

INTERNATIONAL TRAVEL

- Sanctioned Countries / Travel Warning
- Conferences
- Intl Travel Committee

EQUIPMENT

- Vendors
- ITAR Equipment
- EAR Deemed Export Threshold

COLLABORATIONS

- MOU’s & Foreign Collaborations

TECHNOLOGY TRANSFER

- Patents / Secrecy Orders

SUSPICIOUS CONTACTS

- Unsolicited sponsorship requests
- Filming requests
- Invitations to foreign conferences
- Misrepresentations of qualifications
- Foreign large dollar donations

REGULATION UPDATED

- Federal Register / GAO Reports
- Rule changes

LICENSING / TECH CONTROL PLANS

- Applications
- Commodity Jurisdiction
- Registrations

OTHER

- Agreements, NDA’s, Imports, Certs

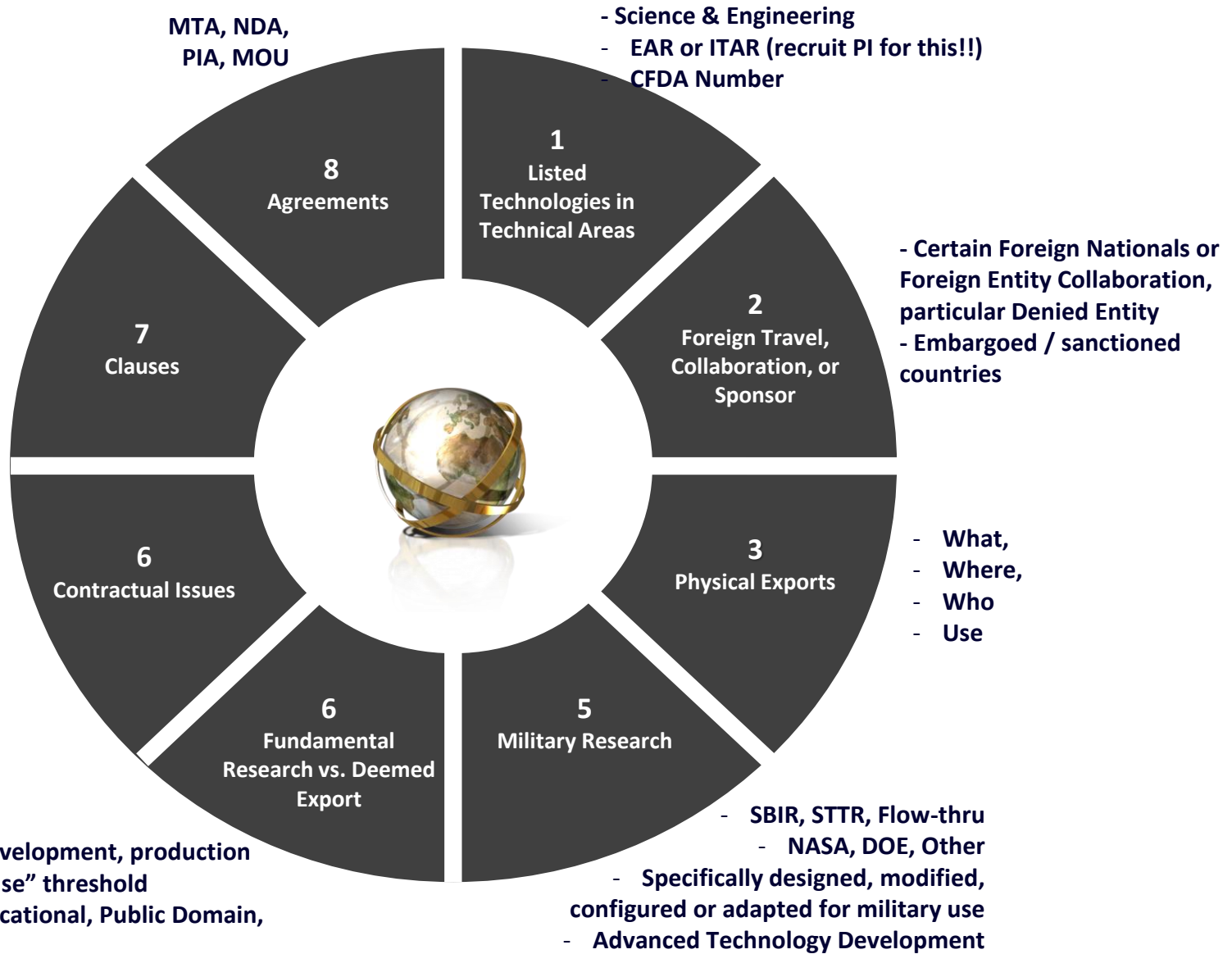
Main Concern for Faculty

- International Travel
- International Collaboration
- Hosting Visiting Scholars (B & J visa types)
- Hiring foreign nationals (F and H visa types, I-129)
- Lab equipment/instruments
- Unanticipated Deemed exports / defense services in Research

Examples of Restricted Information

- Plans, blueprints, drawings, photographs, instructions, and documentation
- Information related to design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification
- Test, evaluation, characterization criteria and results
- Printouts concerning test results
- Test schedule information including milestones and specific test results
- Specific capabilities or limitations of technologies under test and evaluation
- Engineering drawings and specifications
- Details of experimental devices or new and unusual test and evaluation techniques
- Technology objectives, employment doctrine, specific details or capabilities of technologies
- Operational test and evaluation concepts and philosophies that reveals military applications
- Shortcomings of defective equipment or materiel, and the inability of selected components or systems to operate properly
- Date of Initial Operational Capability
- Technology applications or equipment deployment plans

Reviewing Agreement for Export Issues



Pre-award Red Flags

RFP documents and agreements should be reviewed for red flags:

- Funding agency, sponsor, collaborator, subcontractor, consultants:
 - Military, Federal, Energy, Space, Intelligence
 - Proprietary
 - Foreign
 - SBIR, STTR or defense contractor
- Intended Use
 - Specially designed for military
 - Commercial (dual-use) and proprietary

Available Documentation

- Analysis of all available docs
- Announcement / Guidelines, BAA, RFP, RFQ, etc.
- Topic
- Budget Activity w/ reference to BA 6.3 ATD
- NDA, CDA, MTA
- Terms w/ access, dissemination, publication, participation restrictions
- CDRL's w/ other than "Distribution A"

Example - Guidelines

- “The guidelines indicate that depending on the course of the work and which program an applicant applies they may have export control restrictions.”
- This BAA is intended for proposals related to...
 - basic (**usually not restricted**),
 - applied (**may be restricted**) or
 - advanced technology development (restricted)
- “Anticipated that this work will be fundamental research”
- Restrictions may **nevertheless** appear in contract clauses or Section H

Example: Topic

SITIS Topic Details

Topic List

Proposals Accepted:

Program: STTR

Topic Number: MDA13-T005 (MDA)

Title: Command and Control, Modeling and Simulation, Training

Research & Technical Areas: Information Systems, Battlespace, Human Systems

Acquisition Program: MDA/BCDC


The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), which controls the export and import of defense-related material and services. Offerors must disclose any proposed use of foreign nationals, their country of origin, and what tasks each would accomplish in the statement of work in accordance with section 3.4 of the solicitation.

Example: ITAR Topic

AF131-173

TITLE: Combustion Enhancement of Liquid Fuels via Nanoparticle Additions

TECHNOLOGY AREAS: Materials/Processes, Space Platforms



The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), which controls the export and import of defense-related material and services. Offerors must disclose any proposed use of foreign nationals, their country of origin, and what tasks each would accomplish in the statement of work in accordance with section 5.4.c.(8) of the solicitation.

OBJECTIVE: Demonstrate and quantify the impact of nanoenergetic particle addition to propulsion-system fuels. Optimize particle size, passivation and loading with a focus on engine performance and initial transients.

DESCRIPTION: Changing from micron-sized to nanosized energetic particles increases the reaction times and decreases the ignition delay times of the particles. In some cases improvements of several orders of magnitude can be achieved. These unique properties of nanoenergetic particles could be used to enhance the energy density of fuels used in propulsion systems. When mixed with traditional fuels such as JP-8 or RP-1 it is hypothesized that performance of turbine (fuel consumption / time on target) and rocket (ISP) engines could be improved as could the start-up transients. To date, however, such improvements have not been demonstrated and quantitative predictions have not been validated. Recent improvements in understanding the ignition and reaction mechanisms of dry nanoparticles (i.e., particles on their own without fuel added) as well as use in solid rocket motors have continued to highlight potential engine improvements and are enabling more in-depth studies at ever-more-realistic conditions. Yet, investigations of the behavior of wet nanoparticles is lacking, and the effect of the liquid on the energy release, burning rate and energy transfer speed of fuel-nanoparticle mixtures is not understood. These must be quantified to assess the efficacy of this approach to increasing the performance and start-up transients of engines. Beyond the general question of efficacy, implementation of nanoenergetic particles in combustion systems will involve optimization of particle type, size and loading; a mixing technique or demonstration that the particles remain in

Example: BAA Announcement, Award Info.



Broad Agency Announcement
Arrays at Commercial Timescales (ACT)
Microsystems Technology Office
DARPA-BAA-13-26
May 1, 2013




As of the date of publication of this BAA, the Government expects that program goals as described herein may be met by proposers intending to perform fundamental research. The Government does not anticipate applying publication restrictions of any kind to individual awards for fundamental research that may result from this BAA. Notwithstanding this statement of expectation, the Government is not prohibited from considering and selecting research proposals that, while perhaps not qualifying as fundamental research under the foregoing definition, still meet the BAA criteria for submissions. If proposals are selected for award that offer other than a fundamental research solution, the Government will either work with the proposer to modify the proposed statement of work to bring the research back into line with fundamental research or else the proposer will agree to restrictions in order to receive an award.




~~Proposers should indicate in their proposal whether they believe the scope of the research~~
clauses will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate.

instrument type and to negotiate all instrument terms and conditions with selectees. Appropriate clauses will be included in resultant awards for non-fundamental research to prescribe publication requirements and other restrictions, as appropriate.

BAA Require Additional Review upon Award



For certain research projects, it may be possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting contracted fundamental research. In those cases, it is the prime contractor's responsibility to explain in their proposal why its subcontractor's effort is contracted fundamental research.



The following statement or similar provision will be incorporated into any resultant non-fundamental research procurement contract or other transaction:

There shall be no dissemination or publication, except within and between the contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of DARPA's Public Release Center (DARPA/PRC). All technical reports will be given proper review by appropriate authority to determine which Distribution Statement is to be applied prior to the initial distribution of these reports by the contractor. With regard to subcontractor proposals for Contracted Fundamental Research, papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987.

ITAR BAA



As of the date of publication of this BAA, the Government expects that program goals for this BAA either cannot be met by proposers intending to perform fundamental research or else the research resulting from the proposed program is anticipated to present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Therefore, the Government anticipates restrictions on the resultant research that will require the contractor to seek DARPA permission before publishing any information or results relative to the program.



252.204-7000

Proscription

204.404-70 Additional contract clauses.

(a) Use the clause at [252.204-7000](#), Disclosure of Information, in solicitations and contracts when the contractor will have access to or generate unclassified information that may be sensitive and inappropriate for release to the public.

DFAR 252.204-7000 “Disclosure of Information” (AUG 2013)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless—

(1) The Contracting Officer has given prior written approval;

(2) The information is otherwise in the public domain before the date of release; or

(3) The information results from or arises during the performance of a project that has **been scoped and**

negotiated by the contracting activity with the Contractor and research performer and determined in writing by the Contracting Officer to be fundamental research in accordance with National Security Decision Directive 189, National Policy on the Transfer of Scientific, Technical and Engineering Information, in effect on the date of contract award and the USD (AT&L) memoranda on Fundamental Research, dated May 24, 2010, and on Contracted Fundamental Research, dated June 26, 2008, (available at DFARS PGI 204.4).

(b) Requests for approval under paragraph (a)(1) shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 10 business days before the proposed date for release.

(c) **The Contractor agrees to include a similar requirement, including this paragraph (c), in each subcontract under this contract.** Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.

Problematic Clauses

If you find troublesome clauses

- Look for an existing university-friendly alternative
- Look for a local alternative
- On subcontracts, have prime seek CO approval to not flow clause down to you
- Negotiate “substantially similar” language
- Negotiate and document clarifications
- Get it in writing

Clause Negotiation

Negotiation Tips

- Explain why you need the change or deletion
- Link the prescription to your reasoning
- Argue on the basis of institutional policy
- Cite previous contracts when possible
- If commercial, link back to federal contracts
- Switch negotiators
- Ask their reasoning behind refusals

Denied Entities

Active in Florida

- Sichuan University - China
- Northwestern Polytechnical University (NWPUP) – China
- Beihang University / Beijing University of Aeronautics and Astronautics (BUAA)
- University of Electronic Science and Technology of China (UESTC) - China
- Chinese Academy of Engineering Physics
- Shanghai Institute of Space Power / 8th Academy
- Ben Gurion University - Israel
- Pakistan Atomic Energy Commission, National Development Centre, etc. - Pakistan

Civilian partnership with defense industry to improve educational training relevant to development of military technologies

Not Denied Entities, but known proliferators:

Harbin Institute of Technology - China

Nanjing University of Aeronautics & Astronautics - China

Nanjing University of Science & Technology - China

If Subject to Export Controls, then Implement a Technology Control Plan

A roadmap of how your research team will control its technology.

- Explains how compliance with the ITAR and EAR will be carried out.
- Identifies:
 - Restricted activities
 - All parties involved
 - Roles and responsibilities
 - Security protocols
- Ensures research team is informed, aware, and understand their obligations and responsibilities.

Contact Information

**Office of Research & Commercialization
Office of Export Controls Compliance**

12201 Research Parkway
Suite 501
Orlando, FL 32826

<http://www.research.ucf.edu/ExportControl/>

Mike Miller

407-882-0660

Michael.Miller@ucf.edu



UNIVERSITY OF CENTRAL FLORIDA
EXPORT COMPLIANCE