



**University Corporation for
Atmospheric Research**

Export Control Training

Fischer & Associates

September 12, 2019

> Agenda

-
1. What Are Export Controls? How Do They Work? How Are They Enforced?
 2. Why Is Export Control Awareness Critical to UCAR Operations and Researchers?
 3. How Do Controls Impact Researchers and Operational Personnel?
 4. How Does UCAR Remain Compliant *and* Operate within a “Business as Normal” Context?
 5. OFAC Regulations: Purpose, Scope, and Enforcement
 6. Common Export Control Scenarios
-

1. What Are Export Controls? How Do They Work? How Are They Enforced?

What Types of Items Can Be Controlled?

- Commodities, materials, software, technical data, (further discussion below on specific types of items)-bottom line: broadest possible range of items are potentially controlled.
 - “Items” can even include “technology,” in the form of concepts, discussions, and otherwise shared ideas.

How is the Term “Export” Defined for Purposes of These Regulations?

- Outbound transfer of controlled items from the U.S. or knowingly facilitating the export in a domestic transfer or re-export.
 - Physical shipments of such items abroad by any means, including cargo transport, courier, electronic data transmission, spoken communication, hand carried articles.
- Access to Items in the U.S. through “deemed export” or release of information/disclosure:
 - Use of and/or visual or computer access to controlled items, technology or data, occurring in the U.S by foreign nationals, defined as persons who are neither U.S. citizens, permanent residents (“green card” holders) or political asylum recipients: i.e. temporary immigrants – for example H, J, F, O, B visa beneficiaries.
 - Export is “deemed” to occur through the access, taking into account that the foreign national will return home at the termination of visa period.
 - Intention to obtain permanent residence or being in process to obtain does not change foreign national status for purposes of export control regulations.
 - Definition of “access” is nuanced depending on the regulatory jurisdiction, as described more fully below.

How Are Export Controls Regulated?

ITAR- State Department controls (22 CFR 120-130): Defense Directorate for Trade Controls (DDTC)

Defense Article (see ITAR 22 CFR, 120.6 et. seq.)

Generally speaking, defense articles include:

- Hardware, software and technical data specially designed, developed, configured, adapted or modified for a military application, and which do not have performance equivalents among articles used for civil application.
- Items which have significant military or intelligence capability.
 - See 120.41 for definition of “specially designed” as well as “equivalent” form and fit.

Defense Service

- Providing technical assistance (including training) to foreign persons (whether in the U.S. or abroad) in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing or use of defense articles;
- Providing to foreign persons any technical data controlled under this subchapter (see below) whether in the U.S. or abroad;
- Military training of foreign units and forces, regular and irregular, including formal or informal instruction of foreign persons in the U.S. or abroad or by correspondence courses, technical, educational, or information publications and media of all kinds, training aid, orientation, training exercise, and military advice.

Technical Data

- Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense articles; Invention covered by a secrecy order; and software directly related to a defense article.
 - However, does not include results of fundamental research (published or to be published).
- See UCAR Guidelines on providing Help Desk support

How Are Export Controls Regulated? (Continued)

ITAR- State Department controls (22 CFR 120-130): Defense Directorate for Trade Controls (DDTC)

- Based on U.S. Munitions List (USML – 22 CFR 121) pertaining to definitions of defense article, service, or technical data defined above (including certain items “specially designed or modified for military application”). Categories include:

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

UCAR's Current ITAR Program

Empowered Officials

- Dave Sundvall: EO and Senior Manager, Risks & Export
- Meg McClellan: Senior EO
- Bill Schreiner/John Braun: COSMIC
- Joe Lujan: Logistics

Licensing Program

- COSMIC
 - Technical Assistance Agreement (TAA) to transfer ITAR technology
 - DSP5 Employment Authorizations to authorize foreign national access to/use of ITAR technology
- EOL
 - DSP73: authorizing temporary transfer of ITAR item to Costa Rica

Technology Control Plans (TCPs) to secure ITAR technical data: foreign national access permitted

- Two TCPs at RAL in relation to DOD restricted projects (fundamental research requiring access to controlled data sets)

How Are Export Controls Regulated? (Continued)

EAR-Commerce Department “Dual use” controls (15 CFR 700-799):

- Commodity/hardware, software, technical data designed and used for civilian applications but which inherently could have a non-civilian use - - generally defense or nuclear proliferation capabilities.
- Technical data/technology: blueprints, plans, diagrams, models, formulae, tables, engineering designs, and specifications, manuals and instructions written or recorded on other media or devices such as disk, tape read-only memories.
- Exports of certain commodities (whether hardware, software, technology or technical data) identified on the Commerce Control List (CCL) with an Export Control Commodity Number (ECCN) require prior written authorization — an “export license” — or must meet an allowable exception.
 - Licenses take at least 30 plus days to obtain and are often issued with mandatory end use/user conditions.
- Licensing depends on three factors:
 - Type of item;
 - Reason(s) for control e.g., anti-nuclear proliferation (NP), missile technology (MT), national security (NS), chemical biological control (CB), or several other types of control could be placed on it; and
 - Whether country exported to is controlled for an item with that level of control, based on CCL Country Chart.

How Are Export Controls Regulated? (Continued)

EAR-Commerce Department “Dual use” controls (15 CFR 700-799):

- Commerce Control List (CCL) 15 CFR 774 Categories 0-9:
 - 0) Nuclear Materials, Facilities, Equipment
 - 1) Materials, Chemicals, Microorganisms, Toxins
 - 2) Materials Processing (includes laboratory instruments used in materials processing)
 - 3) Electronics (includes integrated circuit technology and development)
 - 4) Computers
 - 5) Telecommunications and Information Security (includes materials for telecommunications and encryption technology)
 - 6) Lasers and Sensors (includes many detection devices and related technology)
 - 7) Navigation and Avionics
 - 8) Marine
 - 9) Propulsion Systems, Space Vehicles and Related Equipment

- Within each category 0-9 above, items are arranged according to the same five groups, A-E below:
 - A. Equipment, Assemblies and Components
 - B. Test, Inspection and Production Equipment
 - C. Materials
 - D. Software
 - E. Technology

Note: Just because an item is purchased in the US and is commercially available, does not render it uncontrolled for purposes of these regulations, were it exported.

> 1. WHAT ARE EXPORT CONTROLS? HOW DO THEY WORK? HOW ARE THEY ENFORCED?

How Are Export Controls Regulated? (Continued)

EAR-Commerce Department “Dual use” controls (15 CFR 700-799):

Example ECCN: 9A012 Non-military “Unmanned Aerial Vehicles,” (“UAVs”), Unmanned “Airships”, Related Equipment and “Components”, as Follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to non-military Unmanned Air Vehicle (UAVs) and Remotely Piloted Vehicles (RPVs) that are capable of a maximum range of at least 300 kilometers (km), regardless of payload, and 9A012.b.5	MT Column 1.
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A GBS: N/A CIV: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See the U.S. Munitions List Category VIII (22 CFR part 121). Also see ECCN 9A610 and §744.3 of the EAR. *Related Definitions:* N/A

Items: a. “UAVs” or unmanned “airships”, designed to have controlled flight out of the direct 'natural vision' of the 'operator' and having any of the following:

a.1. Having all of the following:

a.1.a. A maximum 'endurance' greater than or equal to 30 minutes but less than 1 hour; and

a.1.b. Designed to take-off and have stable controlled flight in wind gusts equal to or exceeding 46.3 km/h (25 knots); or

a.2. A maximum 'endurance' of 1 hour or greater;

TECHNICAL NOTES: 1. For the purposes of 9A012.a, 'operator' is a person who initiates or commands the “UAV” or unmanned “airship” flight.

2. For the purposes of 9A012.a, 'endurance' is to be calculated for ISA conditions (ISO 2533:1975) at sea level in zero wind.

3. For the purposes of 9A012.a, 'natural vision' means unaided human sight, with or without corrective lenses.

b. Related equipment and “components”, as follows:

b.1 [Reserved]

b.2. [Reserved]

b.3. Equipment or “components” “specially designed” to convert a manned “aircraft” or a manned “airship” to a “UAV” or unmanned “airship”, controlled by 9A012.a;

b.4. Air breathing reciprocating or rotary internal combustion type engines, “specially designed” or modified to propel “UAVs” or unmanned “airships”, at altitudes above 15,240 meters (50,000 feet).

b.5. Pneumatic, hydraulic, mechanical, electro-optical, or electromechanical flight control systems (including fly-by-wire and fly-by-light systems) and attitude control equipment designed or modified for UAVs or drones controlled by ECCN 9A012., and capable of delivering at least 500 kilograms payload to a range of at least 300 km.

- Check Country Chart to determine whether your intended destination is controlled for export of your particular item.

Commerce Country Chart

Reason for Control

Countries	Chemical & Biological Weapons			Nuclear Nonproliferation		National Security		Missile Tech	Regional Stability		Firearms Convention	Crime Control			Anti-Terrorism	
	CB 1	CB 2	CB 3	NP 1	NP 2	NS 1	NS 2	MT 1	RS 1	RS 2	FC 1	CC 1	CC 2	CC 3	AT 1	AT 2
	Iceland ³	X					X		X	X						
India ⁷	X			X		X		X	X							
Indonesia	X	X		X		X	X	X	X	X		X		X		
Iran ¹	See part 746 of the EAR to determine whether a license is required in order to export or reexport to this destination.															
Iraq ¹	X	X	X	X	X	X	X	X	X	X		X	X			
Ireland ^{3,4}	X					X		X	X			X		X		
Israel	X	X	X	X	X	X	X	X	X	X		X		X		
Italy ³	X					X		X	X							
Jamaica	X	X		X		X	X	X	X	X	X	X		X		
Japan ³	X					X		X	X							
Jordan	X	X	X	X		X	X	X	X	X		X		X		
Kazakhstan	X	X	X			X	X	X	X	X		X	X			
Kenya	X	X		X		X	X	X	X	X		X		X		

How Are Export Controls Regulated? (Continued)

Key difference as to outbound exports (ITAR vs. EAR)

- Under ITAR: outbound export licenses and defense service authorizations require an Empowered Official (EO).
- With respect to EAR dual use controlled items, licensing is on an item by item, country by country basis depending on the applicable control to that item X that country.
- With respect to ITAR defense articles, all countries presumed licensable and, there are numerous countries which are per se prohibited, the so-called 126.1 countries: DDTC will not issue a license under any circumstance.
 - Examples: China, Belarus, Burma and the terrorist sponsoring countries (Iran, Syria, Sudan).

EAR/ITAR End User Controls/Prohibitions: Denied Party/Restricted Entity Lists

Separate from above-referenced controls, government prohibits *exports to* or *export collaboration with* certain designated individuals and entities identified as export violators both in and outside the U.S.

- Compliance requirement to screen certain parties (for example foreign institutions, industrial sponsors) against government-published lists prior to export (Denied Parties List, Restricted Entities List, Debarred Parties List, Specially Designated Nationals List).
- Impact on UCAR's collaborations: international collaborations (off-shore) institutions to whom UCAR is providing research equipment or sharing data and research results should be screened against denied/restricted parties lists, as well as the Unverified List (parties for whom end use cannot be confirmed.)
 - Visiting delegations should be selectively screened through Visual Compliance to ensure that there are no watch-list implications. Requires early notification to allow for screening opportunity.

How Are Export Controls Enforced?

- Federal agencies have investigative authority (DOE; State – DDTC; Commerce – OEE; Border Protection) and often incorporate the FBI.
- Civil and criminal enforcement authority over EAR and ITAR violations, resulting in loss of export privileges, severe monetary fines (millions of dollars), prosecution (criminal) — against the institution and/or individual researcher or administrator to whom violation is found attributable.
 - Can result in Federal debarment.
 - Agencies exercise broad enforcement discretion.
 - Civil enforcement action: 5 year look-back rule.
 - Nationwide, numerous institutions have been investigated and/or are participating in voluntary audits of their export control programs.
 - Audits are both expensive and time-consuming, and often require ongoing status reporting to federal agencies.
- Numerous institutions have been fined with civil penalties for licensing and access violations:
 - Most common reason for compliance failure is lack of consistent awareness among faculty/research and operational personnel about licensing requirements for both outbound transfers and controlled access.
- Criminal Prosecutions
 - US – Chinese business partnership incorporating university PIs to pursue unauthorized export of semiconductor technology to China.
 - Thomas Butler, Chief of Infection Disease Division, Texas Tech Dept. of Internal Medicine: Select Agent violations/export to Tanzania.
 - J. Reece Roth, Professor Emeritus, University of Tennessee, Knoxville/technology transfer to foreign graduate students (China and Iran) contrary to explicit contractual provisions.
 - UT itself not indicted based on mitigating record.
- Voluntary Disclosure program: Self-reporting suspected or actual violation to the appropriate agencies
 - Requires process remediation plan

2. Why Is Export Control Awareness Critical to UCAR Operations and Researchers?

Export Control enforcement activity by Federal agencies among research institutions is now at a significantly higher level than it was several years ago.

- Penalties (civil and criminal) and sanctions can be enforced at both the institutional and individual (researcher) levels.
 - UCAR's decentralized organizational structure underscores control requirements.
 - H1 Visa Certifications are required regarding access to export controlled data in research laboratories.
- However: compliance can be accomplished without impeding fundamental research.
 - Requires awareness of requirements and transparent procedures to address issues across all affected programs, labs, and staff functions.

In response, UCAR has created an export control function within the OGC to provide guidance and support to the export control function.

This training takes into account UCAR's emphasis that all personnel be made aware of the export control regulations and how they affect research and business activities.

Note on “Foreign Influence” issue:

During the past two years we have observed a brisk dialogue between federal agencies and U.S. research institutions with respect to unauthorized access to export-sensitive technologies as well as strategies by international governments (including China) to gain advantageous exposure to collaborative research and academic strategies - - so called “soft efforts.”

From an institutional perspective, it is incumbent upon senior leadership to identify and message the appropriate balance between addressing these concerns, while preserving and nurturing an internationally collaborative research and academic environment.

Current federal activity in this area includes (but is not limited to) the following actions:

- FBI Investigations: Confucius Institutes; Thousand Talents Program; selected campus reviews of J-1 visiting scholar programs hosting Chinese nationals in the STEM disciplines
- Congressional request (June 2018) to Secretary of Education: investigate University-based research collaborations, grants and gifts with Huawei and ZTE (see also HEA “Foreign Source” reporting requirement)
- National Defense Authorization Act (NDAA):
 - Prohibits Executive agencies from (directly/indirectly) procuring/using “covered telecommunications equipment” from Huawei or ZTE (or subsidiary/affiliate).
 - Prohibits Executive agencies from obligating or expending loan/grant funds to procure such services or equipment: implication is grant refusal based on a university’s use of covered telecommunications equipment, subject to certain exceptions and pending final rule under the FAR
- Huawei Technologies now listed in the Federal Register as a Restricted Entity
- NIH: Foreign Influences on Research Integrity: 117th Meeting of the Advisory Committee to the Director December 13, 2018, reporting on espionage in research concerns; ongoing investigations into conflicts of interest/commitment and tighter disclosure requirements

Foreign Influence (continued)

Current federal activity in this area includes (but is not limited to) the following actions:

- CIFIUS/FIRMAA Regulations: (Committee on Foreign Investment in the U.S./Foreign Investment Risk Review Modernization Act of 2017): amended to include mandatory notification of international investors that could result in the transfer of “critical technologies” including but not limited to export controlled technologies
- DOE: Restrictions placed on export of nuclear technology to China; counterintelligence at National Labs; publication restrictions
- NASA: Prohibition against use of NASA funds for research collaboration/participation by Chinese institutions (separate from export control restrictions)
- Commerce: unofficial policy of denying export licenses to transfer instruments, software and information to China and China-related end users, pertaining to certain sensitive technologies; expanded list of restricted entities and unverified parties which are based in China.
- DOD: increased publication restrictions under the DFARS 7000 clause and flow down of DFARS 7012 clause, requiring NIST 800-171 data security protections.

Taking these actions into account, it is evident that many of the responses are informed by the Export Control function, particularly with respect to J-1 visa scope-of-exposure reviews; restricted party screening; TCPs; international travel reviews; technology access and/or transfers through commercialization; procurement activities; and IT data security. Other key functions include Conflict of Interest/Commitment Reporting, Contracts, and Human Resources.

3. How Do Controls Impact Researchers and Operational Personnel?

Key Point

- All outbound exports must be classified for license determination.
- As to laboratory access: the situation depends on whether UCAR is conducting fundamental research and, if so, whether this research either:
 - Uses any research tools classified under ITAR or proprietary tools, or
 - Data restricted under an NDA and export controlled under either the EAR or ITAR.

Fundamental Research Exclusion (FRE) – EAR/Public Domain – ITAR

- Basic and applied research in science and engineering conducted at a U.S. research institution, the results of which ordinarily are published and shared broadly within the scientific community.
 - “Applied” here is defined as activity short of proprietary commercialization.

Public Domain Definition (ITAR)

- Generally accessible to the public through:
 - Publication in periodicals, books, print, electronic, or other media available for general distribution (including websites that provide free uncontrolled access) or to a community of persons interested in the subject matter, such as those in a scientific or engineering discipline, either free or at a price that does not exceed the cost of reproduction and distribution;
 - Readily available at libraries open to the public or at university libraries;
 - Patents and published patent applications available at any patent office;
 - Release at an open conference, meeting, seminar, trade show, or other open gathering held in the U.S. (under ITAR) or anywhere (under EAR). Note, a conference or gathering is "open" if all technically qualified members of the public are eligible to attend and attendees are permitted to take notes or otherwise make a personal record of the proceedings and presentations.
 - ITAR: general descriptions/marketing material relating to function/purpose of defense article.

> 3. HOW DO CONTROLS IMPACT RESEARCHERS AND OPERATIONAL PERSONNEL?

Benefit to Using These Exemptions

- Even if results of the research might otherwise be export controlled under the EAR and ITAR and, therefore, subject to deemed export restrictions as to who could participate in the research, the FRE/Public Domain exclusions allow access by foreign nationals to research results.

Caveat

- Absolutely no restrictions can be accepted from a corporate or government sponsor (prime of flow-down) that:
 - Directly or indirectly prohibits dissemination or publication of research results, or
 - Mandates foreign national restrictions as to who can access research (if there will be foreign national participation).

Certain Temporary Restrictions Do Not Compromise the FRE

- Limited pre-publication review by research sponsors is acceptable within a reasonable timeframe but only to:
- Prevent inadvertent divulgence of proprietary information or government classified information (as having been mutually defined) and provided by the sponsor, or
- Ensure that pre-defined proprietary content will not compromise the sponsor's patent rights.

> 3. HOW DO CONTROLS IMPACT RESEARCHERS AND OPERATIONAL PERSONNEL?

What About Research Instruments Necessary to Conduct the Research?

- If the research instrument or operational data being used falls under the EAR dual use regulations, then the FRE allows unrestricted access by foreign nationals to such items for research purposes: no deemed export results, requiring prior license authority.
 - Key exception: “Use” and “development” technology associated with certain aerospace components/software.
- However, if the research instrument or operational data falls under ITAR jurisdiction, the FRE or public domain exclusion does not apply to the ITAR research tool or operational data: access remains restricted to foreign nationals until such time as the University obtains license or authorization to allow access or disclose the data
 - Options: use or defense service license
 - Technology Control Plan (TCP) to restrict access
- Key thing to remember: The ITAR access restriction applies, notwithstanding the fact the no publication or citizenship restrictions were accepted as part of the Agreement, i.e. the research results are still eligible for publication.

Educational Information Exclusion - EAR and ITAR

- “Educational information” released by instruction in catalogue courses or professional conferences where all technically qualified members of the public are eligible to attend and attendees are permitted to take notes of proceedings.
- However, same ITAR principle applies to research tools and operational data where incorporated into course of study.

Conference Exclusion

- Research results may be presented at professional conferences abroad, addressing data published or to be published.
 - Does not cover a “defense service” - - disclosure of ITAR data otherwise restricted or knowingly training a foreign military entity or representative on EAR applications for a defense purpose.

> 3. HOW DO CONTROLS IMPACT RESEARCHERS AND OPERATIONAL PERSONNEL?

- **UCAR's faculty and staff support play an important role in identifying potentially controlled activities**
 - Work with Dave Sundvall to resolve export requirements

Key Export Compliance Responsibilities: Short-List

- **Contracts:** Determination of fundamental research vs. restricted parameters plus flagging possible follow-on export control implications (e.g. NDAs, travel, international transfer of instruments)
- **Office of General Counsel:** International agreements; Export Control and logistics compliance support
- **Information Technology:** Technology Control Plans (TCP) security protocols; Travel with Laptops; Outer Firewall
- **Finance:** Screening Foreign Payees (Vendors, subcontractors, reimbursements)
- **Procurement Office:** Identification of export controlled items (primarily ITAR and controlled EAR technology)
- **Human Resources:** H1B and O1 for export control certifications; J1 visitors and scholars
- **Facilities Management:** Security protocols in relation to Technology Control Plans (TCPs) where required
- **Logistics:** Shipping subject to export license/authorization
- **Technology Transfer:** IP management and technology transfer through patent framework

> 3. HOW DO CONTROLS IMPACT RESEARCHERS AND OPERATIONAL PERSONNEL?

- UCAR has been enhancing its export compliance program
 - Documented procedures published on UCAR web site
 - Consistent outreach to export sensitive research and administrators
 - Strongest mitigating factors in the event of an enforcement action are oversight, training and documented processes

The screenshot shows the website's navigation bar with links for President, Communications, Development, Gov Relations, Counsel, Membership, and Univ Relations. The main header identifies the 'Office of the President General Counsel' with the tagline 'air • planet • people'. A secondary navigation bar includes 'COUNSEL', 'INTELLECTUAL PROPERTY', 'EXPORT COMPLIANCE', 'INSURANCE & RISK', 'PRIVACY', and 'ABOUT US'. The page title is 'Counsel' and the breadcrumb trail is 'Home » Counsel » Export Compliance'.

EXPORT COMPLIANCE SERVICES FOR STAFF

GETTING GUIDANCE BEFORE YOU EXPORT

Even though most research and development conducted at NCAR/UCAR is not subject to export control restrictions, it is important for scientists, engineers, technical, and support staff to be aware of UCAR's policy, procedures, and guidance regarding compliance with federal export control laws and regulations. We're here to help.

EXPORT CONTROL LAWS AND TRADE SANCTIONS

Export control laws are a complex set of federal regulations designed to protect U.S. national security; to prevent the proliferation of weapons of mass destruction; to further U.S. foreign policy including the support of international agreements, human rights and regional stability; and to maintain U.S. economic competitiveness. Export control laws govern how information, technologies, and commodities can be transmitted overseas to anyone, including U.S. citizens, or to foreign nationals in the U.S.

Atmospheric research is subject to export control laws including:

- **International Traffic in Arms Regulations (ITAR)**, implemented by the U.S. Department of State
- **Export Administration Regulations (EAR)**, implemented by the U.S. Department of Commerce.
- **The Office of Foreign Assets Control (OFAC)**, which is part of the U.S. Department of the Treasury, is responsible for administering and enforcing economic and trade sanctions against certain nations, entities, and individuals.

Export control laws may apply to **research activities** at UCAR facilities, to the temporary export of controlled UCAR-owned equipment (including laptop computers containing controlled **software or technical data**), and to the shipment of **research materials** to foreign collaborators.

Failure to comply with export control laws can result in severe consequences for NCAR/UCP/UCAR as well as the individual researcher(s), including fines of up to \$1 million per violation, up to 20 years imprisonment, and debarment from future exporting activities.

A number of resources are available to help NCAR/UCAR researchers and administrators become more aware of the issues surrounding Export Controls and to provide assistance in determining when the regulations are applicable.

CONTACT YOUR EXPORT COMPLIANCE COORDINATOR TO

- discuss your questions
- apply for a license
- document an exception

Find your group's **Export Compliance Coordinator**

OGC Export Compliance Manager
export@ucar.edu, ext. 8898

ANONYMOUS REPORTING

OFFICE OF GENERAL COUNSEL

- Home
- Intellectual Property Services
- Export Compliance Services
- Guidelines & Forms
- Export Compliance FAQ
- Training
- Lab/Program Contacts
- Insurance & Risk Management
- Privacy Protection
- About Us
- Subpoenas & Legal Notices

RELATED UCAR LINKS

- Anonymous Reporting
- Business Record Retention
- Enterprise Risk Management
- Legal Forms (login)
- Policies & Procedures
- Ethics at NCAR/UCAR
- Governance/Membership
- Human Subjects Research
- Technology Transfer
- UCAR Foundation

LAB/PROGRAM CONTACTS - EXPORT COMPLIANCE

For questions and assistance, including help filing export licenses when required, contact your UCAR Export Compliance Coordinator (ECC) or Empowered Official (EO).

Click any heading to sort by that category

Lab/Program/Dept	Last Name	First Name	EO	ECC
ACOM	Ryan	Debbie		ECC
CGD	Vlasy	Barb		ECC
CGD	Faircloth	Elizabeth		ECC
CISL	Pronk	Mary		ECC
CISL	Moore	Amy		ECC
CONTRACTS	Taberski	Gina		ECC
COSMIC	Schreiner	Bill	EO	
COSMIC	Agnona	Silvia		ECC
EOL	Metz	Sara		ECC
EOL	Sherman	Rochell		ECC
HAO	Knack	Amy		ECC
HAO	Shapiro	Sheryl		ECC
HR	Carr	Laurie		ECC
LOGISTICS	Lujan	Joe	EO	
MMM	Morgan	Kathy		ECC
MMM	Marwitz	Kris		ECC
NWSC	Sullivan	Jerome		ECC
OGC	McClellan	Meg	Sr. EO	
Office of the COO	Sundvall	David	EO	ECP Mgr.
RAL	Campbell	Tina		ECC
RAL	VanHoof	April		ECC
UCP	McConagha	Kay		ECC
COSMIC	Braun	John	EO	

4. How Does UCAR Remain Compliant and Operate within a “Business as Normal” Context?

Remain Knowledgeable of Export Requirements

- Make sure that all personnel affected by these regulations are sufficiently trained to identify export issues that arise during the course of normal research activities.

Avoid Unintended Restrictive Clauses in Sponsored Agreements (including post Agreement scope modifications)

- These may occur in contracts, grants or cooperative agreements:
 - Federal sponsor (primary or flow through via industry or other research institution);
 - Industrial sponsor (as initiated by industrial sponsor or flow through from federal sponsor);
 - Research institution (flow through from industry or federal agency).
- New 7512 CUI Clauses: Controlled unclassified information leads to NIST 800-171 data security requirements

Seek Help in Obtaining Licenses for Outbound Transfers and ITAR Access Prior to Export Activity

- Work with UCAR’s Export Control function to scope license requirements.
 - Shipment of Equipment Abroad – Since the FRE *only* applies to technology and technical data, a license may be necessary to export equipment depending on ITAR or EAR requirements.
 - *Carrying* or transmitting export controlled technical data or development software - for example, loading cryptography development software or proprietary export controlled information on a laptop or sending it abroad to a destination for which the data is controlled.
 - Distinguishable from exporting FRE data results (must be uncontrolled results only) which does not require a license.
 - See specific OFAC licensing requirements.
 - Access by foreign nationals to ITAR research tools or instruments used in outside of fundamental research scope.
 - Expanding allowable access (beyond US researchers) under an NDA which covers export controlled data or instruments.

Managing Non-Disclosure Agreements (NDAs):

An NDA containing a confidentiality clause and/or an export control clause (should the data being provided be controlled) does not per se compromise FRE or public domain status, provided that:

- Purpose of the NDA is to safeguard proprietary background information and does not restrict research results.
- Where the purpose of the NDA is to safeguard data that is both proprietary *and* export controlled, researcher and sponsor need to discuss amount of information and the extent to which the project can be performed with either no transfer of data to the researcher, or transfer to only one or two lead researchers, but not the balance of the research team — i.e., consistent with the data being used strictly for background purposes.
- Note: As a practical matter it is better not to accept export controlled data where it can be avoided. Accepting ITAR data, even for background purposes, will require the researcher to assume the responsibility of safeguarding the technology from inappropriate IT and physical access.

What Can I Take with Me When I Travel?

Use License Exception TMP (Tools of Trade).

- Applies to usual and reasonable kinds/quantities of tools (commodities/software) for use by exporter.
- Must remain under effective control exporter or exporter’s employee (physical possession, locked in safe, guarded).
 - Would generally not apply to laboratory equipment that cannot be protected.
- Must accompany exporter when traveling or be shipped within one month before departure or any time after departure, and be returned no later than one year post export.
- Does not apply to all items/circumstances; Export Control analysis is required for each use of this Exception.

Fabrication and Service Contracts

- Fabrication and Service activity for an industry partner or federal sponsor outside fundamental research does not qualify for the FRE. Hence access to certain laboratory instruments, tech data and results may be restricted from foreign nationals who might otherwise participate in fundamental research activities.
 - Particular attention should be paid to whether laboratory instruments and fabrication results are export controlled under EAR and/or ITAR.

Special Considerations Applicable to Software and Encryption

Software

Make self-created software “publicly available” so as to be excluded from the EAR.

- Must have arisen during or resulted from fundamental research as defined by the EAR.
- Source code and machine readable code must be publicly available.
- Software and related technical data are published when available for general distribution/community subscription either for free or at a registration price that does not exceed the cost of reproduction and distribution.
- Contract terms for release of the developed software.
 - There should be no conditions placed on the research.
 - Should be the intent of the research team to publish its findings in scientific literature or elsewhere.
 - If the contract requires that a private corporation review the findings of the research team with the intent of controlling what results are to be released in open literature, then the research is considered proprietary. The research is not considered fundamental.
- See [UCAR Export Compliance Guidelines for Downloadable Research, Datasets, Models, and Software](#).

Special Encryption Rules

- Encryption software is consistently called out in the EAR to alert that stricter rules apply; government takes a conservative approach to cryptographic controls, including removing some items from the Fundamental Research Exclusion (“FRE”).
 - Where the FRE does not apply, a “deemed export” situation arises with regard to T3 foreign nationals.
- Encryption software is controlled for its functional capacity – not for the informational content it supports.
- Category 5, Part 2 captures cryptography and where it has a higher level of control, supersedes other CCL categories that may have otherwise applied to underlying software.

5. OFAC Regulations: Purpose, Scope, and Enforcement

What Are the OFAC Regulations? What Are They Intended to Accomplish?

- Office of Foreign Assets Control (OFAC) falls under the Department of the Treasury.
- Regulations are found in Title 31 CFR, Parts 500-599.
 - Broadly regulate and restrict transactions with embargoed countries plus certain nongovernmental organizations to implement strategic foreign policy.
 - Restrict transfer and exchange of items and services.
 - Restrict commercial, industrial, and financial relationships benefitting countries
 - Restrict personal travel (Cuba) subject to certain exceptions.
 - Prohibit transactions with certain end users – OFAC’s Specially Designated Nationals List (present in the U.S. or abroad).
- Embargoed countries plus certain non-governmental organizations: most comprehensive controls apply to the following:
 - Cuba, Iran, Syria, N. Korea
 - Regulations are country-specific
 - OFAC regulations operate independently of other export control regulations (dual-use/EAR, military defense/ITAR)
 - An activity that might not be controlled under EAR or ITAR may be controlled under OFAC
 - OFAC Sanctions Programs: Terrorism
 - Regulations include Executive Order and several sanctions (31 CFR 594-597)
 - Sanctions apply to certain listed entities
- Regulations are country-specific: different restrictions apply to different countries
 - While new Cuba regulations have expanded the scope of General Licenses for travel related to educational activities and professional research, including participation in conferences, Specific Licenses may be required for certain activities.
 - With respect to Iran, the scope of OFAC General License authorization is much narrower, permitting only fundamental research exchanges but not commodity transfers or any research activity that could be defined as a service.
 - New General License offers broader authorization for Sudan transactions

How Are OFAC Regulations Enforced?

- All regulated activity requires prior authorization in the form of an OFAC license issued by the Department of Treasury.
- While OFAC publishes some country-specific guidance on regulatory interpretation, such guidance is not comprehensive; in general, questions in doubt are handled through requests for Advisory Opinions or License Applications.
 - Data provided in advisory opinions is treated as proprietary and confidential upon request.
- Treasury deploys its own investigative enforcement team, and operates jointly with the FBI and the Commerce Department's Office of Export Enforcement (OEE).
- Sanctions include civil and criminal monetary penalties which can be assessed against the individual violator and/or the institution. Cases can be referred to the Department of Justice for criminal investigation.
 - Monetary penalties can range up to the greater of \$250,000 or twice the value of the transaction, per violation.
- The most common violations in the academic and research community involve the following:
 - Cuba-based research and independent travel.
 - Outbound and collaborative Iranian transactions (see below for further detail).
 - Access to restricted research tools in the U.S. by OFAC-restricted foreign nationals.
 - Failure to screen OFAC-restricted end-users.

How Specific Research Activities Trigger OFAC Requirements

- Providing a restricted “service.” This concept is common to the regulations across the five most heavily sanctioned nations, as excerpted below from the Iran sanctions:

“§560.204 Except as otherwise authorized pursuant to this part, including §560.511, and notwithstanding any contract entered into or any license or permit granted prior to May 7, 1995, the exportation, re-exportation, sale, or supply, directly or indirectly, from the United States, or by a United States person, wherever located, of any goods, technology, or services to Iran or the Government of Iran is prohibited, including the exportation, re-exportation, sale, or supply of any goods, technology, or services to a person in a third country undertaken with knowledge or reason to know that:

 - (a) Such goods, technology, or services are intended specifically for supply, transshipment, or re-exportation, directly or indirectly, to Iran or the Government of Iran; or
 - (b) Such goods, technology, or services are intended specifically for use in the production of, for commingling with, or for incorporation into goods, technology, or services to be directly or indirectly supplied, transshipped, or reexported exclusively or predominantly to Iran or the Government of Iran.”

- Common scenarios involving restricted services include the following:
 - Exporting research data which is not publicly available.
 - “Export” is defined as a transfer: electronic, conversational or hard copy media
 - “Publicly available” means published on a website or through scholarly publication, etc.
 - Iranian download of a Website publication containing research results is allowable; however, providing technical assistance upon request from an Iranian individual or institution in Iran triggers license requirement.
 - Importing samples or materials for analysis/provision of data results.
 - Even where the samples or materials are strictly for research purposes and results are intended for publication, importation without a license is prohibited.
 - Note: Importing any item from Iran requires license authorization; other countries have item-specific requirements.
 - Data exchange with OFAC foreign national researchers and scholars based in OFAC countries.
 - Note export prohibition above: issuing data or research results that is unrelated to publication may constitute a restricted export.
 - Serving on collaborative research committees or boards: No issue, unless “service” is being provided: common sense standard – discussions should be limited to what has been published or general discussions pertaining to collaboration.

- Be aware of Ukraine-related Russia sanctions affecting energy sector and expanding SDN List/Sectoral Sanctions

6. Common Export Control Scenarios

Scenario 1

UCAR has created a new software tool/model, which is the direct result of fundamental research and available for download online: UCAR wishes to implement a simple registration process, that does not restrict access/download to the software, but allows for data tracking/user identification: What are the export compliance implications?

- Assuming the software is released into the public domain, it falls outside the scope of the export control regulations with respect to restricted party screening. That said, *pre-public domain activity* that involves the international export of source or executable code is subject to screening and OFAC sanctions restrictions, as BIS considers the code a commodity. For example, exporting pilot software code (*versus fundamental research information or data*) to an external international party for testing or comment would typically require screening and a restriction against exporting the software to an OFAC-sanctioned country or party.
 - May be eligible for CCAT opinion form BIS
 - UCAR screens international collaborating parties
 - See also **Scenario 10** below concerning potential “defense service” activity
- Likewise, if UCAR is providing a “service” in the form of individualized support for the software, it will be responsible for the following:
 - Establishing the export control classification of technology related to the software, and determining whether release of software and technology (in the form of “support”) would require prior authorization based on the location of the party receiving support.
 - Compliance with U.S. sanctions and embargoes—not allowing downloads to any prohibited destination.
 - Performing Screening against denied and restricted parties lists and ensuring that any approved user is not found on any such list.
 - Verifying that the software will not be utilized for a prohibited end use.

Scenario 2

UCAR is processing (or has accepted) a sponsored research award. The project sponsor will provide technical data under an NDA. The sponsor alerts UCAR that the data is export controlled under the EAR. What are the implications?

- First it is necessary to determine how the data is controlled under the dual use regulations? This will inform the scope of potential foreign national access.
- Second, who will require access to data? Only the lead researcher or entire team? If the research team requires the data, this has extra export control implications
- Third how will the researcher manage the disposition of data during use and at close of project? Consider Technology Control Plan (TCP)

Scenario 3

UCAR is performing fundamental research that requires the acquisition of an ITAR-governed laboratory instrument. What are the implications?

- Given the stringent ITAR access restrictions that could interfere with otherwise “open laboratory” environment, the researcher may be able to utilize a dual-use instrument instead: this alternative should be explored.
- If no alternative is available, Export Control must ensure that the researcher and laboratory can handle the ITAR instrument from an access control standpoint and TCP implementation
- Establish TCP groundwork and documentation *prior* to accepting instrument into laboratory. Technical operational data/manuals pertaining to instrument must also be IT-safeguarded.

> 6. COMMON EXPORT CONTROL SCENARIOS

Scenario 4

UCAR is signing a software license agreement: The license agreement indicates that the software is “export controlled: diversion contrary to U.S. law prohibited.” However, there is no indication under which export control regulation the software is specifically controlled. What are the implications?

- This language may only be intended to signal basic export control prohibitions against export to sanctioned countries or watch-listed entities or individuals; hence, the software may not be actually controlled to a higher level. Alternatively, the software may be dual-use controlled, but the license provision omits ECCN classification.
- Consult licensor to determine actual classification/control level (if any); if controlled, determine whether the planned utilization can be reconciled to export control requirements - - i.e. international transfer and/or foreign national access.

Scenario 5

UCAR is hosting a delegation of scientists from a Chinese institute to tour UCAR facilities, with the ultimate intention of potentially arranging an exchange program with the Chinese institute: What are the implications?

- While there may be no immediate “deemed export” implications per se (as no controlled technology will be shared with the delegation), UCAR should determine through Visual Compliance screening whether the Chinese institute has been identified on any U.S. Government watch-list: if so, then UCAR may wish to reconsider the long term viability of such a relationship that would, presumably involve a much greater level of exposure to UCAR’s facilities and data exchange. This analysis would be required for any foreign institution (not just China).

Scenario 6

Safety & Site Services has been requested to transfer a laser device over which it exercises safety protocols to a foreign institution with which a UCAR researcher is collaborating: What are the implications?

- As with any commodity transfer, the item must *first* be classified to determine whether it is controlled for the intended destination: if so, a further determination must be made as to whether an export license is required or the transfer meets a license exemption. If a license is required, the researcher will need to be alerted that this could take from 30 to 60 days to obtain the proper export authorization.

Scenario 7

A UCAR researcher has been approached by a large corporation to perform fabrication and testing work for a fee; there is no research component per se, only the service aspect. What are the implications?

- The fabrication/testing contract is likely proprietary work – without a research publication component. Hence, it will not qualify under UCAR’s fundamental research exemption and all export control access implications relating to the proposed work must be considered, including whether a Technology Control Plan (TCP) is required.
- Note however, that not all publication restrictions signal export control: the restrictions may speak only to IP protection.

> 6. COMMON EXPORT CONTROL SCENARIOS

Scenario 8

A UCAR researcher has been invited to give a presentation at several international conferences: the first in Paris and then one in Havana. The researcher plans to present the results of a fundamental research project that he/she has been working on this year. The data will be on the researcher's laptop that he/she will be traveling with. It so happens that several years ago, this same researcher had participated in a proprietary service contract with an industry partner pursuant to which he/she received proprietary export controlled data to perform the work at this time. What are the implications?

- First it is necessary to determine whether any of the controlled data from the previous project remains on the laptop? If so, it should be removed, or travel with an alternative "clean" laptop arranged.
- Second, while the presentation in Paris does not trigger any other controls, the presentation in Havana is potentially more complicated depending on the content. Notwithstanding liberalization of Cuba sanctions, certain content restrictions remain. In addition, other Cuba-related sanctions with respect to financial exchanges and services remain in place. Hence, the scope of the trip should be reviewed for export control implications.

Scenario 9

A UCAR support staff member has been asked to ship a prototype/sample to a foreign research institution with whom the researcher has a research collaboration. The researcher indicates to the staff member that the sample has "no value" and "doesn't even work" so "no special paper work is required." What are the implications?

- Even though the item is only a sample with no value per se, it still requires classification review, as there are many commodities (particularly raw materials) which meet control/licensing parameters, even if they are only samples or prototypes from the researcher's perspective. Only after this evaluation has been conducted and a determination that no controls are applicable should the item be shipped.

Scenario 10

A researcher has been approached by a foreign institution to collaborate in a fundamental research project involving the research of advanced Doppler Radar applications, software models for atmospheric prediction, and interface technology with ground to satellite installations. The award is significant from an opportunity and monetary standpoint. While there are no publication restrictions incorporated into the scope of work, one requirement for UCAR is that our research team meet quarterly with research leadership from the foreign institution to report results prior to publication, including certain unspecified government representatives associated with the foreign university. What are the implications?

- The proposed collaboration must be evaluated to determine whether it could constitute a "defense service" regulated under the ITAR. ITAR regulates the provision of technical assistance or training to foreign military enterprises with respect to both ITAR-governed technology, as well as non-controlled technology which could be used for a defense purpose. In this case, the radar technology being developed is not in itself ITAR; however, it may be dual use controlled or EAR99 uncontrolled.
- Nonetheless, the requirement pertaining to pre-publication meetings with foreign officials may signal a potential defense service given the correlation between radar/atmospheric conditions and defense capability. Hence, the proposal should be referred to export control for review prior to acceptance. In some cases, clarification from the U.S. State Department is warranted to determine whether the proposed activity qualifies as a regulated "defense service."

Fischer & Associates

San Francisco, CA, USA

Washington, D.C., USA

Headquarters

130 Battery Street, Suite 500

San Francisco, CA 94111

www.fischer-associates.com

Don Fischer, Principal

415.987.4039

dfischer@fischer-associates.com